THE NEW JERSEY HIGHLANDS:

AN INTERIM REPORT FOR THE PLAN DEVELOPMENT COMMITTEE OF THE NEW JERSEY STATE PLANNING COMMISSION

Prepared By:
NJ Office of State Planning
October 1, 1999

Cross-acceptance 1999:

The Highlands Region

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Introduction

The Plan Development Committee of the State Planning Commission has asked the Office of State Planning to prepare a brief report to serve as an overview of the status of plans and studies relating to the Highlands Region, and to set the stage for a discussion of the issues involved.

Part 1 presents, albeit in a very abbreviated form, a characterization of the Region and highlights of the issues already summarized in previous studies, reports and planning initiatives. For these tasks, the report has relied very heavily on the *NY-NJ Highlands Regional Study* (USDA Forest Service 1991) and *The NJ Highlands: Treasures at Risk* (Mitchell 1992). The Forest Service study was undertaken in 1990 to review changes in land use ownership patterns; to document likely impacts on resources, natural integrity, economic stability and quality of life; and to suggest alternative conservation strategies for resource sustainability. Mitchell's work is a more comprehensive description of the geology, history, water resources, habitat value, recreation, economics and growth patterns of the region. These two works, which share a base of substantial scientific research from other sources, represent the seminal collections of Highlands Region information.

Part 1 also incorporates various reports by the Regional Plan Association as well as contributions from county planning offices, government agencies and organizations that responded to requests for information. This report, then, is a collection of information rather than an exhaustive record of the Highlands Region. As a synthesis rather than an analysis, it is meant to serve as an overview, a starting point for discussion. The maps in both sections of the report are illustrative of the factors raised in the text, but because of scale and space constraints, aggregations of factors have been made when appropriate to clarify and illuminate the issues.

Part 2 is a review of planning and investment activity in the Region. County, regional, State and Federal agencies, and non-governmental organizations involved with planning and management of issues were contacted in order to assess the current level of integrated planning activity in the Region. Summaries and tables have been used whenever possible, again, to represent detailed information in as clear a manner as possible.

Finally, a lengthy Appendix includes a database of various reports and plans associated with the Highlands and Highlands issues.

The staff of OSP is grateful for the support of the many contributors to this effort. Without their timely responses this report would not have been possible.

Why is the State Planning Commission undertaking this effort?

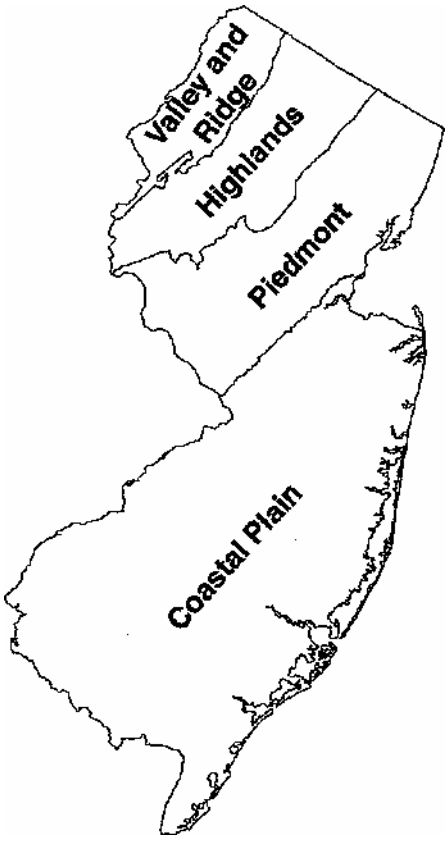
Through Cross-acceptance, the Commission solicits "policies as appropriate to address development, redevelopment and conservation issues" for Areas of Critical State Concern (Interim Plan: 133). In February 1999, the Highlands Coalition petitioned the State Planning Commission to consider the designation of the Highlands Region of northwestern New Jersey as an "Area of Critical State Concern." The petition proposed policies for the Region, and asked the Commission to *"provide the direction and vision necessary to preserve this*

area, properly manage the land uses within it and set a course for effective action" (see Appendix). The Commission must make a determination on this petition. In addition to a series of OSP staff-to-staff meetings with relevant agencies, the Plan Development Committee plans to hold at least two meetings to discuss the issues raised by the Coalition's petition before the Commission formally makes a determination.

Section 1: The Highlands Region Where

and what is the Highlands Region?

The New Jersey Highlands Region is slightly less than a third of the larger 2 million acre Highlands physiographic area stretching from northwestern Connecticut across the Lower Hudson River Valley and northern New Jersey into east-central Pennsylvania. Within New Jersey, the Highlands Region is one of four primary physiographic provinces in the State (see inset). Physiographic provinces provide a pattern of geologic, topographic and precipitation factors that relate to other environmental attributes. For example, inherent geological characteristics determine the relative underground storage of water, and topography influences viability of water storage in reservoirs. Thus, climate and landforms together determine the character of an area as well as the type and location of animal and plant populations that function as ecosystems (see Map 1 - Location Map).



PHYSIOGRAPHIC PROVINCES

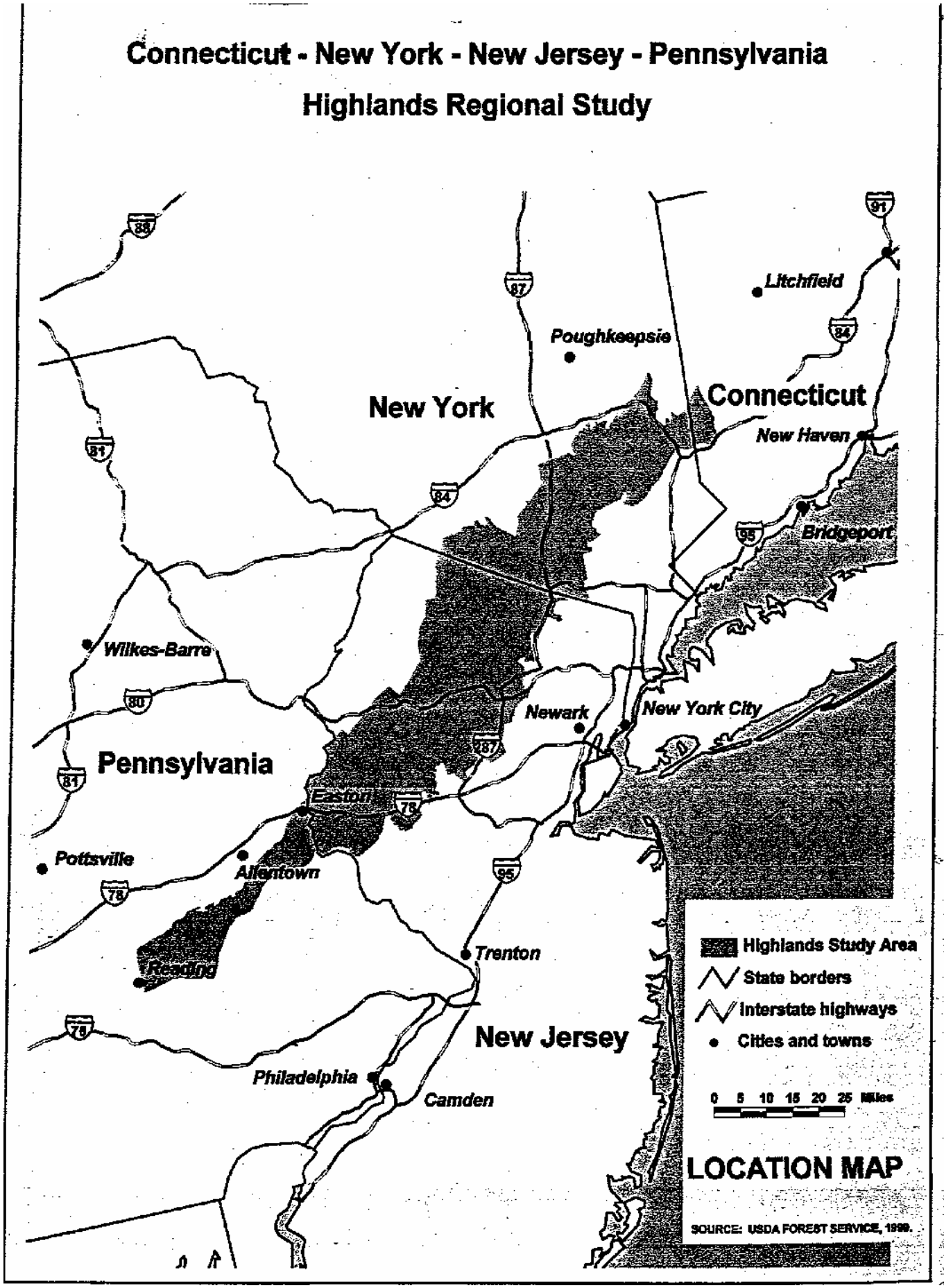
For this report, the Highlands physiographic province has been used as the delineation of the Region. While a region can be defined on physical features alone, the distribution of plant and animal populations may transcend the strictly physical boundaries of physiographic regions. Furthermore, the boundaries of physiographic regions do not necessarily conform to economic regions or political boundaries. For example, a study prepared by the USDA Forest Service investigating issues related to forest resources in the Highlands identified 83 municipalities in the New Jersey Highlands (USDA 1992), while the NJ Conservation Foundation lists 87 (Mitchell 1992). This report identifies seven counties and 90 municipalities all or partly within the New Jersey Highlands Region (see Map 2 and Table 1 - New Jersey Highlands Communities).

Determining how to define and map a boundary for any region is a crucial component to describing and developing appropriate management options.

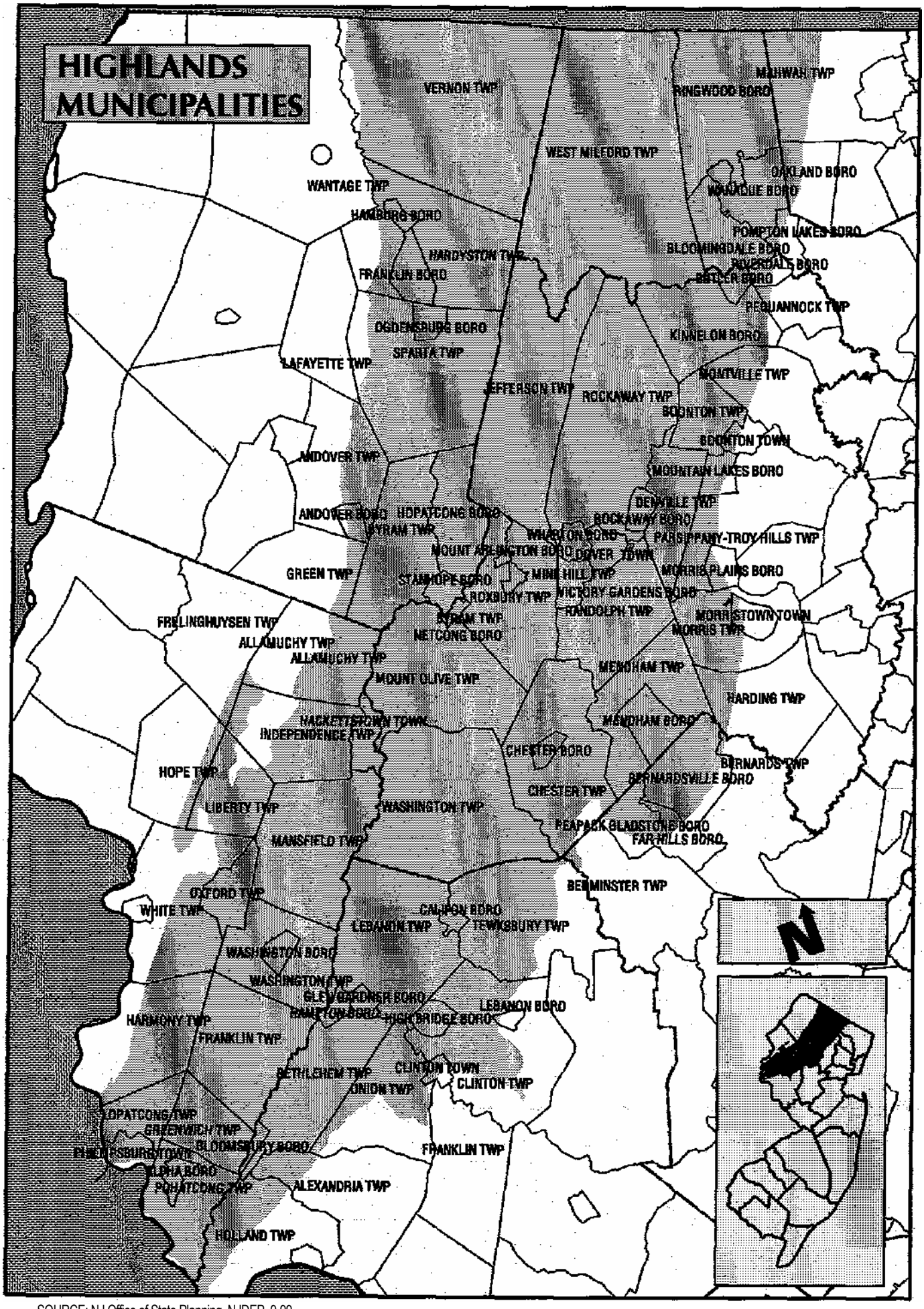
The USDA Forest Service used the physiographic region delineation for its initial study of the Highlands, but is currently in the process of re-defining an expanded Highlands Region based on ecological units, political boundaries, topography, land cover, hydrology, hydrography*, population density and recreational activity.

* Hydrology is based on ground and surface water occurrence. Hydrography involves finer resolution of surface water bodies and water courses.

HAP 1


Connecticut - New York - New Jersey - Pennsylvania
Highlands Regional Study
New York
Connecticut
Pennsylvania
New Jersey
Litchfield
Poughkeepsie
New Haven
Bridgeport
Wilkes-Barre
Newark
New York City
Easton
Pottsville
Allentown
Reading
Trenton
Philadelphia
Camden
Highlands Study Area
State borders
Interstate highways
Cities and towns
0 5 10 15 20 25 Miles
LOCATION MAP
SOURCE: USDA FOREST SERVICE, 1999.

MAP 2



SOURCE: NJ Office of State Planning, NJDEP, 9-99.

Table 1 : List of Highlands Municipalities

Bergen County
Mahwah
Oakland

Hunterdon County

Alexandria
Bethlehem
Bloomsbury
Calif on Clinton
Town Clinton
Twp Glen
Gardner
Hampton High
Bridge Holland
Lebanon Boro
Lebanon Twp
Milford @
Tewksbury
Union

Morris County

Boonton Town
Boonton Twp
Butler
Chester Boro
Chester Twp
Denville
Dover
Hanover @
Harding
Jefferson
Kinnelon
Mendham Boro
Mendham Twp
Mine Hill
Montville
Morris Twp
Morris Plains
Morristown
Mount Arlington
Mount Olive
Mountain Lakes
Netcong
Parsippany-Troy Hills
Pequannock
Randolph Riverdale
Rockaway Boro
Rockaway Twp
Roxbury Victory
Gardens
Washington Twp
Wharton

Passaic County

Bloomingdale
Pompton Lakes
Ringwood
Wanaque West
Miiford

Somerset County

Bernards #
Bernardsville Far
Hills Peapack-
Gladstone

Sussex County

Andover Boro #
Andover Twp #
Byram
Franklin
Green #
Hamburg
Hardyston
Hopatcong
Lafayette #
Ogdensburg
Sparta
Stanhope
Vernon

Warren County

Allamuchy
Alpha
Belvidere @
Franklin
Frelinghuysen #
Greenwich
Hackettstown
Harmony
Hope#
Independence
Liberty
Lopatcong
Mansfield
Oxford
Phillipsburg
Pohatcong
Washington Boro
Washington Twp
White

Municipalities not included in USDA Forest Service 1991 Highlands Study

@ Municipalities not included in the Highlands Coalition petition or the Mitchell/NJCF Highlands report.

Based on the boundary of the physiographic province, the 640,00 acres, or 1,000 square miles of the Highlands has been characterized in the Resource Planning and Management Structure of the State Plan[1] as follows (see Map 3 - enclosure). Note that these figures are based on the 1992 RPMM and will be slightly different when the results of Cross-acceptance have been calculated.

Table 2 : Distribution of Planning Areas in the Highlands

Planning Area Acres **Planning Areas by County**

Planning Area	Acres	%0f Total	County	%of Total	Planning Areas
1 - Metropolitan	31,073	4.8	Bergen	1.2	1,5,8
2- Suburban	22,491	3.5	Hunterdon	12.4	2, 3, 4B, 5, 8, 9
3- Fringe	13,744	2.2	Morris	34.5	1,2,3,48,5,8,9,11
4- Rural	49,741	7.8	Passaic	12.7	1,2,5,8,9
4B- Rural/Environ. Sensitive	108,363	16.9	Somerset	1.7	2,5,8
5- Environmentally Sensitive	334,871	52.3	Sussex	18.9	4, 4B, 5, 8, 9
8- Park	64,527	10.1	Warren	18.6	1,3,4,46,5,8
9- Water	9,641	1.5			
11- Military Management	6,027	0.9			
TOTAL	640,478	100.0		100.0	

Nearly 35 percent of the Highlands lies within Morris County, slightly less than 20 percent both in Sussex and Warren counties, about 12 percent in both Passaic and Hunterdon, and less than two percent in both Bergen and Somerset. Thus, while planning areas 1, 2, and 3 account for only 10 percent of all the acreage in the Highlands, the vast majority of that lies within Morris County. That is, 80 percent of the total Highlands PA1 area, 56 percent of the total area in PA2, and 71 percent of all PAS acreage falls within the jurisdiction of Morris County.

The metropolitan and suburban planning areas (PA1, PA2), those earmarked for intensive development, account for slightly more than 8 percent of the total land area in the Region. While environmentally sensitive lands (PA4B and PAS) account for nearly 70 percent of the total, **over 80 percent of the Highlands Region is classified as environmentally sensitive, as water or as Parks.**

Thirty-four percent of the environmentally sensitive planning areas (PA4B and PAS) lies in Morris County, slightly more than 20 percent in Warren, 15 percent in both Hunterdon and Sussex, with just under 12 percent in Passaic. Of the Park acreage, 30 percent is in Passaic, 24 percent in Sussex, and 23 percent in Morris counties.

Settlement History and Development Pattern

Settlement began in the southern reaches of the Highlands, which were more readily accessible to already occupied areas of the State and had soils more suitable to

[1] Acreage figures based on the 1992 RPMM. Subsequent map changes being considered will increase the acreage in the Park classification.

agriculture[2]. Early land use was dominated by agriculture. It was not until the 1700s and the expansion of the iron industry that settlement was spurred into the northern section. While iron ore was found throughout the Highlands, ironworks were located near streams for power and near wooded areas for fuel. The iron industry was the impetus for an intensive cutting of the northern forests and for the development of the transportation network which went on to shape settlement patterns in the region. From the later 1800s into the 20th century, as the source of iron shifted to the Midwest and coal became the preferred fuel, most of the Highlands ironworks gave way to larger operations located closer to transportation corridors linked to the Pennsylvania coal region. With decline of the Highlands iron industry, the northern forests began to regrow. Use of the rail lines changed from moving wood, coal and iron to transporting seasonal residents to Highlands communities. The late 1800s and early 1900s witnessed the beginning of the excursion train era as urban residents to the east recognized the amenity value of the Highlands forests and lakes.

The development of the Morris Canal and the railroads connected the Highlands to the other areas of the State, predominantly to the more urbanized area to the east. But it was the post WWII growth of automobile use, truck transport, and road construction that opened this area to increased development. Today, the Highlands is traversed by two interstate highways (Routes 78 and 80) and a network of state and county roads (see Map 4 - Roads and Rail). Yet no commuter rail lines currently cross the region, bus service is limited, and segments of the Highlands remain remote compared to other areas of the State.

Every county, except Sussex, has a majority of residents working within its own borders[3], but most residents only commute as far as the next county. According to NJTPA, work trip flows of northern New Jersey residents to New York City are important and growing. Nearly 10 percent of work trips by northern New Jersey residents were to and from New York City, showing a 31 percent growth since 1980. "Reverse commutes" by New York City residents to northern New Jersey grew 18 percent from 1980 to 1990. However, figures are not available to readily determine the change in commuting patterns and employment in the Highlands communities.

Changes in employment from 1980 to 1990 by county are included in the Appendix.

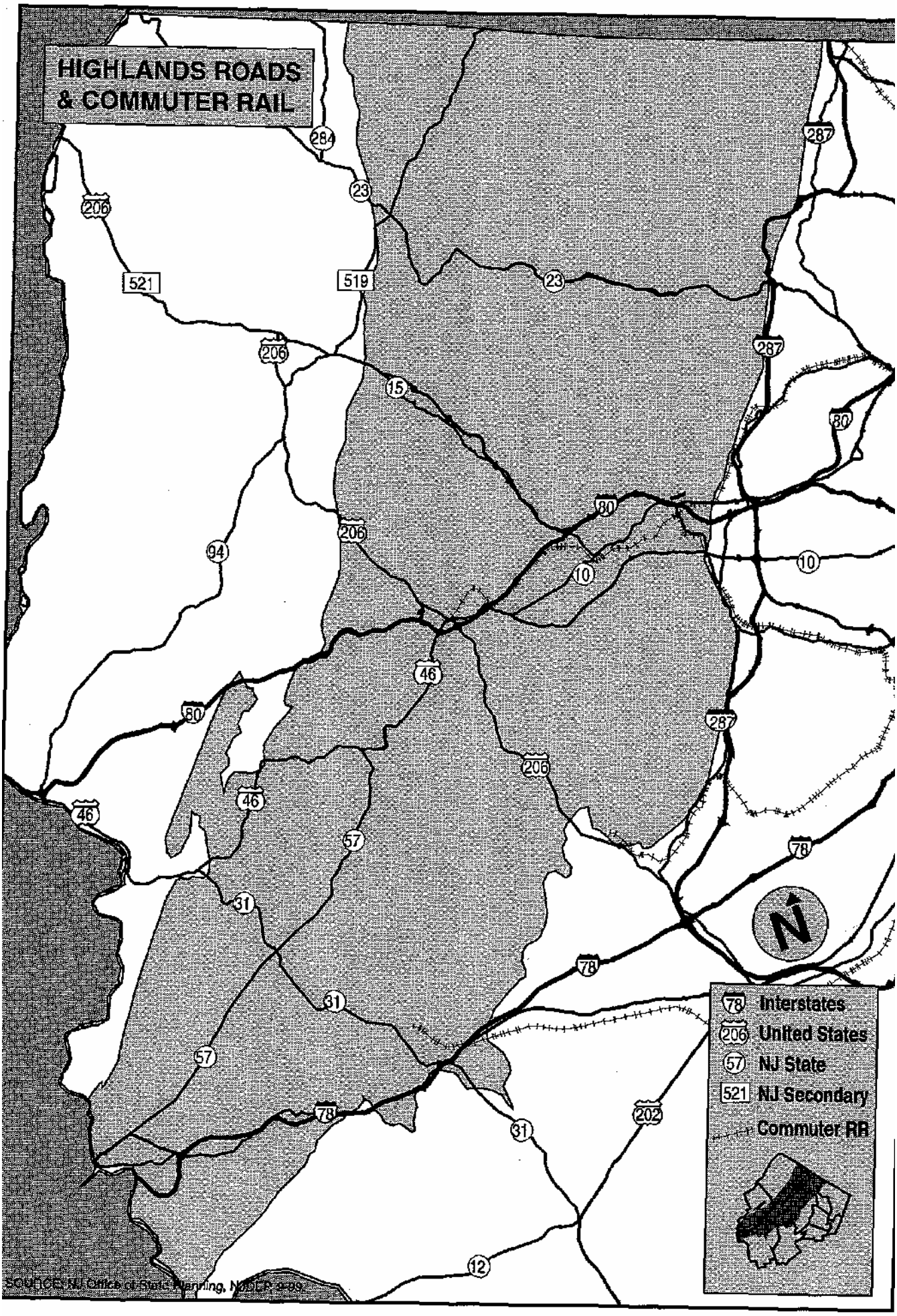
Summary

Although the Highlands Region is a large physiographic province with similar physical characteristics across its broad area, it is obviously not uniform. The 1,000 square mile region is also notable for the variety and array of environmental and development characteristics and each of seven counties and 90 municipalities bring unique administrative, economic, demographic and physical attributes to the region. These attributes contribute differentially to both enrich and detract from any regional approach to managing issues, A prerequisite to solving any problem is agreement on the issue(s) to be described, analyzed, and, ultimately managed. The following sections define what is special about the Highlands and depicts issues common to the area as a whole.

Much of the historic information presented here is from Mitchell, 1992 (pp. 20-42).

[3] NJTPA: 1999. Online, NJTPA: Internet (9/29/99). Available: www.njtpa.njit.edu/atlas/employ.htm.

MAP 4


HIGHLANDS ROADS
& COMMUTER RAIL
284
23
206
521
519
23
287
206
15
287
80
80
206
94
10
10
46
80
287
206
46
46
57
78
31
78
31
57
78
31
202
12
N
78 Interstates
206 United States
57 NJ State
521 NJ Secondary
Commuter RR
SOURCE: NJ Office of State Planning, NJDEP, 9-99.

What makes the Highlands Region special?

The Highlands province covers about 1,000 square miles or about 13% of the State's land area. Higher and more rugged than adjoining provinces[4], the Highlands does share types of forest cover, abundant rainfall, stream systems and habitat features with the adjoining Valley and Ridge province to the northwest. **One of the values of the Highlands Region lies in its *preponderance* of sensitive environmental features.** Seven of the eight sensitive environmental features recognized by the State Plan for the Environmentally Sensitive Planning Area (PAS) can be found in the Highlands Region; only coastal wetlands are not present.

Distribution of many of these features is illustrated in maps 5 through 8.

The physical aspects of the Highlands - its ridges, valleys and forest cover - are the reason the area is the principal source of potable water for nearly 4 million people residing in the urban corridor of northern New Jersey. The streams and wetlands of the Highlands are the **headwaters** for the watersheds flowing north and west to the Ridge and Valley province and south and east to the Piedmont. The North Jersey Water Supply Commission has estimated that four reservoir systems fed by Highlands streams supply water to 4.1 million residents[5]. In addition, its groundwater resources are the sole source for more than 600,000 residents of the Highlands[6]. In all, **the Highlands Region provides drinking water for about 45 percent of the total population of the State.**

Arguably, then, a most critical and immediate function of the New Jersey Highlands Region is that of potable water supply source. The Region not only supplies its residents from vulnerable sole source aquifers[7], but captures, purifies and stores billions of gallons of surface water for use by urban residents beyond the Highlands' edge. Water supply is critical to the economic wellbeing and function of each and every community as well as commerce and industry both in and out of the Highlands Region.

The natural protection and filter for both the surface and groundwater water systems is the large expanses of forest cover draping the landscape. The same physical features that protect the water supply support a rich diversity of ecosystems and species and provide a wealth of **recreational opportunities** for the urban population centers to the east. Figures for the NY-NJ Highlands Region indicate that the two State-park systems (NJ and NY) attract nearly 5 million visitors annually and that annual visits to the Highlands Region total over 8 million[8]. These figures are evidence of the Region's

[4] Rogers, Golden and Halpern. 1987. *Environmental Planning Elements of the NJ State Development and Redevelopment Plan.(p.* 6). Prepared for the NJ Office of State Planning (March).

[5] Reported in Mitchell 1992. *The New Jersey Highlands: Treasures at Risk.* New Jersey Conservation Foundation (p.49) and updated by NJDEP 9/99.

[6] NJDEP 1996. *Water for the 21st Century: NJ Statewide Water Supply Plan.* (p. 67).

[7] To be designated, Sole Source Aquifers (SSAs) must meet several criteria, including susceptibility to contamination (loss), local dependency, and lack of reasonable alternative source.

[8] USDA Forest Service. 1991. *New York - New Jersey Highlands Regional Study* (p22).

recreational value and its **function as the green belt or environs to the greater northeast metropolitan area[9].**

An additional consideration is that of accountability and representation. Many beneficiaries of the potable water and recreational benefits of the Region are not involved or represented in the local development decisions that can affect these resources. Within the Region, ninety municipalities and several state and regional agencies make land use and investment decisions that can affect the quality of the resources that are important to residents and businesses beyond the Region. For example, when scattered residential and commercial developments are approved one by one, several things occur which, taken cumulatively, can have downstream impacts. Development replaces forest cover with impervious cover that may adversely impact water quality and recharge to water systems and increase flooding downstream, beyond the developing community's borders. Similarly, transportation routes to link jobs and people may be inadvertently planned to traverse potable water supply watersheds, making the resource vulnerable to contamination from accidental spills or normal maintenance activities, such as winter deicing. While many local decisions can be said to have extra-jurisdictional impacts, **the location and function of the Highlands means that individual decisions here may have greater extra-regional impacts than most other areas of the State.**

Since the State holds the waters of the State in trust for all residents, the State has an interest in the protection of water resources, especially those of regional importance as potable and industrial supply sources.

In addition to supplying potable water, the New Jersey Highlands refreshes regional air quality, preserves a record of the region's rich pre-historic and historic past, and offers cultural opportunities, an array of recreational alternatives, scenic views and visual relief from the urban environment. In the broadest view, the entire Highlands Region can be thought to be a part of the environs or greenbelt to the metropolitan corridor that extends from Philadelphia to New York City. Perhaps, then, another important issue for the region is **to find a way to capitalize on the amenity value of its intrinsic resources in a manner most sensitive to sustaining them.**

Special values of the Highlands Region:

> A preponderance of sensitive environmental features;

> Sole source groundwater for more than 600,000 Highlands residents;

> Potable water supply for more than 3 million people in metropolitan New Jersey;

> Greenbelt or Environs for the metropolitan areas;

> Extra-regional impacts of local decisions on water resources;

> Amenity value of natural, scenic, historic, cultural and recreational resources.

[9] USDA Forest Service. 1991. *New York - New Jersey Highlands Regional Study* (p7); NJOSP. 1999. *Communities of Place: The NJ State Development and Redevelopment* PIon(IP:150).

Table 3 : Environmentally Sensitive Features

Environmentally sensitive features recognized by the State Plan:	Environmentally sensitive features of the Highlands Region:
Trout production and trout maintenance streams and their watersheds	49% of total stream miles are TP or TM streams (9% yet-to-be classified)[10] [See Map 5 - High Quality Waters]
Pristine Category I waters and their watersheds	[See Map 5 - High Quality Waters]
Watersheds of existing potable water supply sources	Reservoirs supply water to 3 - 4 M people outside of the region[11]. [See Map 6 - Reservoirs and Potable Water Supply Watersheds]
Recharge areas for potable water supply sources and carbonate formations associated with recharge areas or aquifers	Local potable water supplied by 5 EPA-designated SSA systems[12]
Habitats of populations of endangered and threatened plant and animal species	Habitat for bog turtles, timber rattlesnakes, red-shouldered hawk, neotropical songbirds, many other species of fauna and plants. [See Map 8- Natural Heritage Priority Sites]
Contiguous freshwater wetland systems	Extensive riverine systems; thousands of acres of glacial, floodplain, and spring-fed wetlands [See Map 7 - Wetlands and Streams]
Significant natural features such as critical slope areas, ridgelines, gorges and ravines, and important geologic features or unique ecosystems	Ridgetops, terrestrial caves, limestone glades, talus slopes, glacial bogs, calcareous fens, Black spruce and Atlantic white cedar swamps; most associated with unique, rare, or threatened communities
Prime forested areas	Large unfragmented northern hardwood forests in the State provide critical habitat, maintains biodiversity, protects water quality. [See Map 8 - Important Forest Areas]

[10] NJDEP. 1999. Personal communication with T. McKee (September).

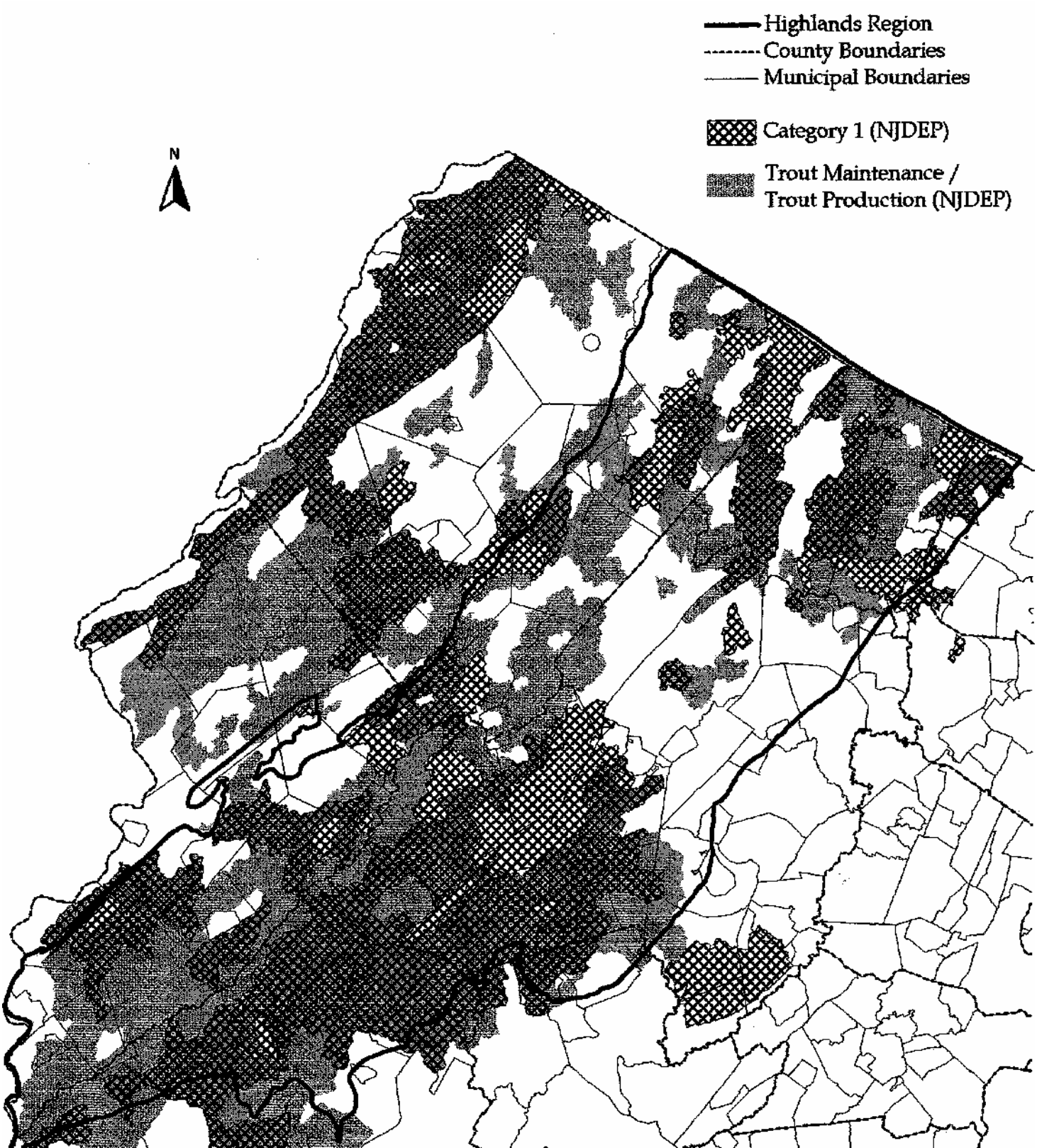
[1] NJDEP 1996. *Water for the 21& Century: The Vital Resource* NJ Statewide Water Supply Plan (p67); Mitchell, 1992. *The New Jersey Highlands: Treasures at Risk* (p 49).

[2] This includes aquifers within the Upper Rockaway, Highlands, Ramapo, Buried Valley, and Northwest NJ 15 Basin SSAs. USEPA Region2: Sole Source Aquifers, April 1998, Online, EPA: Internet 9/29/99. Available: www.epa.gov/r02earth/water/ssamap.htm.

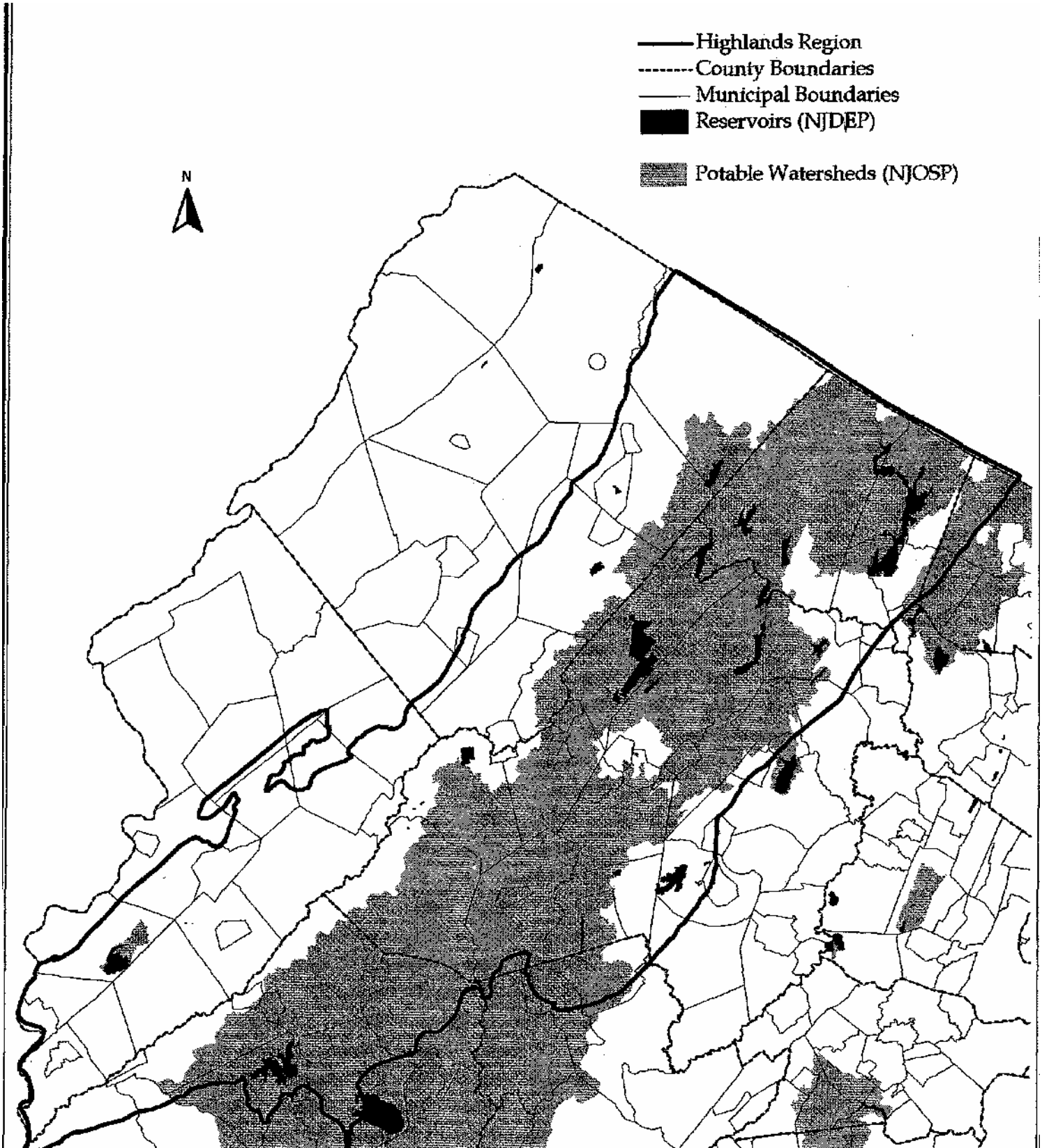
SOURCE New Jersey Office of State Pfcwwg, #99.

MAP 5

High Quality Waters



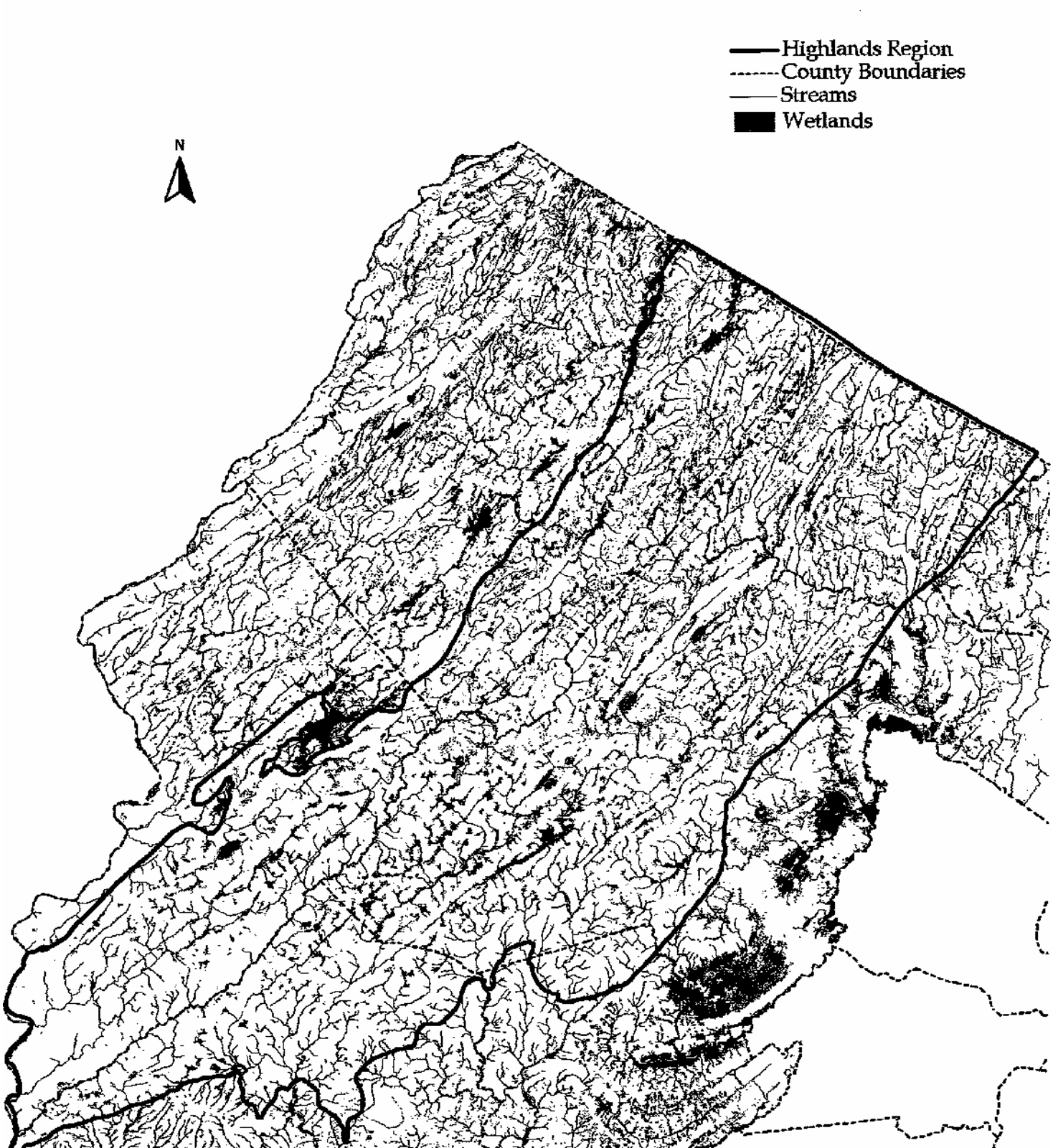
Reservoirs and Potable Water Supply Watersheds



SOURCE New Jereey Office of Slate Pfenning, *9199*.

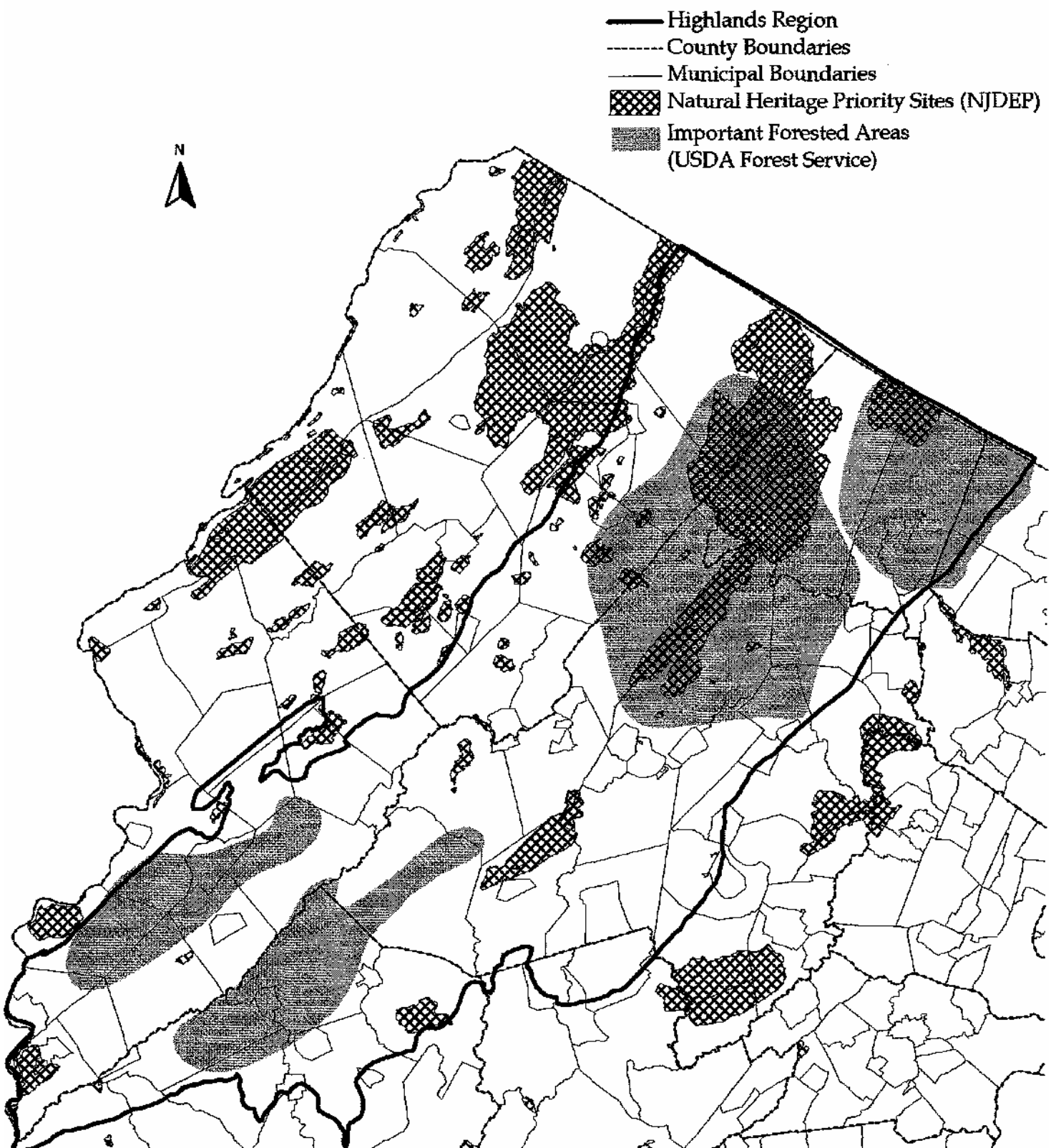
HAP 7

Wetlands and Streams



MAP 8

Important Forested Areas and Natural Heritage Priority Sites



What are the trends impacting the Highlands?

Please Note: Since few agencies collect or analyze data specifically for the Highlands, trend data for the Highlands Region as delineated in this report is not readily available. While substantial information is available from many sources, the time and resource requirements for re-assembling and tailoring that information to the Regions was beyond those available for this report.

A review of the studies used for this report all agree that this region, on the edge of urban development, is feeling the pressures and impacts of our need to expand.

In 1992, the USDA Forest Service reported[13]

> Infiltration of suburban development into the Highlands Region;

> Fragmentation of forest exacerbated by decreasing average parcel size and fragmented ownership;

> Accelerated loss of forest and farmland; increase in isolated flooding problems;

> Population in the region increased by 20.8% compared to 7.8% for the entire State[14] from 1970 to 1990.

> In the New Jersey counties, population density increased from 433 to 524 people per sq. mi. from 1970 to 1990.

Since then:

> An analysis of land cover and habitat based on aerial photography from the mid-1970s shows that while the NY-NJ Highlands region has a forest cover of 62-65%, less than 20% is considered prime interior habitat[15].

> Surface water quality in the region show signs of development impacts (see water quality section below).

> Growth pressures continue. Under a trend scenario, land consumption could average >3000 ac/year[16] in the Highlands.

> Population in the Region continues to increase and an additional 300,000 people are expected to reside in the Region by 2010. By 2020, resident population is expected to exceed 1 million people[17].

Changes in population from 1990 to1998 for the region are included in the Appendix.

[13] USDA Forest Service. 1991. New York - *New Jersey Highlands Regional Study*

[14] USDA Forest Service. 1991. New York - *New Jersey Highlands Regional Study,* (p 39).

[15] Prime interior habitat is defined as that area more than 250 ft. from a non-forest edge or road. Lathrop, Richard. 1995. *The Status of Forest Fragmentation in the NY/NJ Highlands.* CRSSA Publication #17-95-2, Rutgers University Center for Remote Sensing and Spatial Analysis, New Brunswick, NJ.

[16] OSP forecast based on trend analysis of land consumption patterns.

[17] OSP forecast based on county population figures included in Cross-acceptance reports.

In a recent update of the *Highlands Regional Study*[18], the USDA Forest Service characterized the current situation:

> The region continues to experience urbanization patterns and land use changes that threaten the sustainability of natural resource systems and associated quality of life.

> Threats to water quality and fragmentation of forest cover continue to increase.

> Improved analytical techniques and public policy offer opportunities to provide a comprehensive approach to issues and collaborative problem solving for the Highlands Region.

Open Space

The Green Acres Program has directly acquired or assisted in the acquisition of over 86,000 acres of recreational and open space lands in the Highlands Region since 1961[19], or nearly 14 percent of the total region. Of the 86,000 acres, 64,000 acres were for State Parks and Forests, natural areas, recreational areas, historic sites, and wildlife management areas. The remaining 22,000 acres were purchased in concert with counties and municipalities in the region. Map 9 - Highlands Preserved Land - represents Federally preserved lands as of 1991, State preserved lands as of 1998, some county and municipal open space, farmland in permanent preservation as of 1998, and water utility easements as of 1999.

Farmland

As of August 20, 1999, the SADC reported that 54,950 acres of farmland have been preserved through the New Jersey Farmland Preservation Program. Of this acreage, approximately 6,500 acres were preserved in the Highlands, with 834 acres in Hunterdon County, 2,246 acres in Morris (all in Washington Twp.), 296 acres in Sussex, and 3,131 acres in Warren County. (See Local Section and Appendix for more details.) Not considered in this report but which should be considered is the economic value the agricultural industry provides.

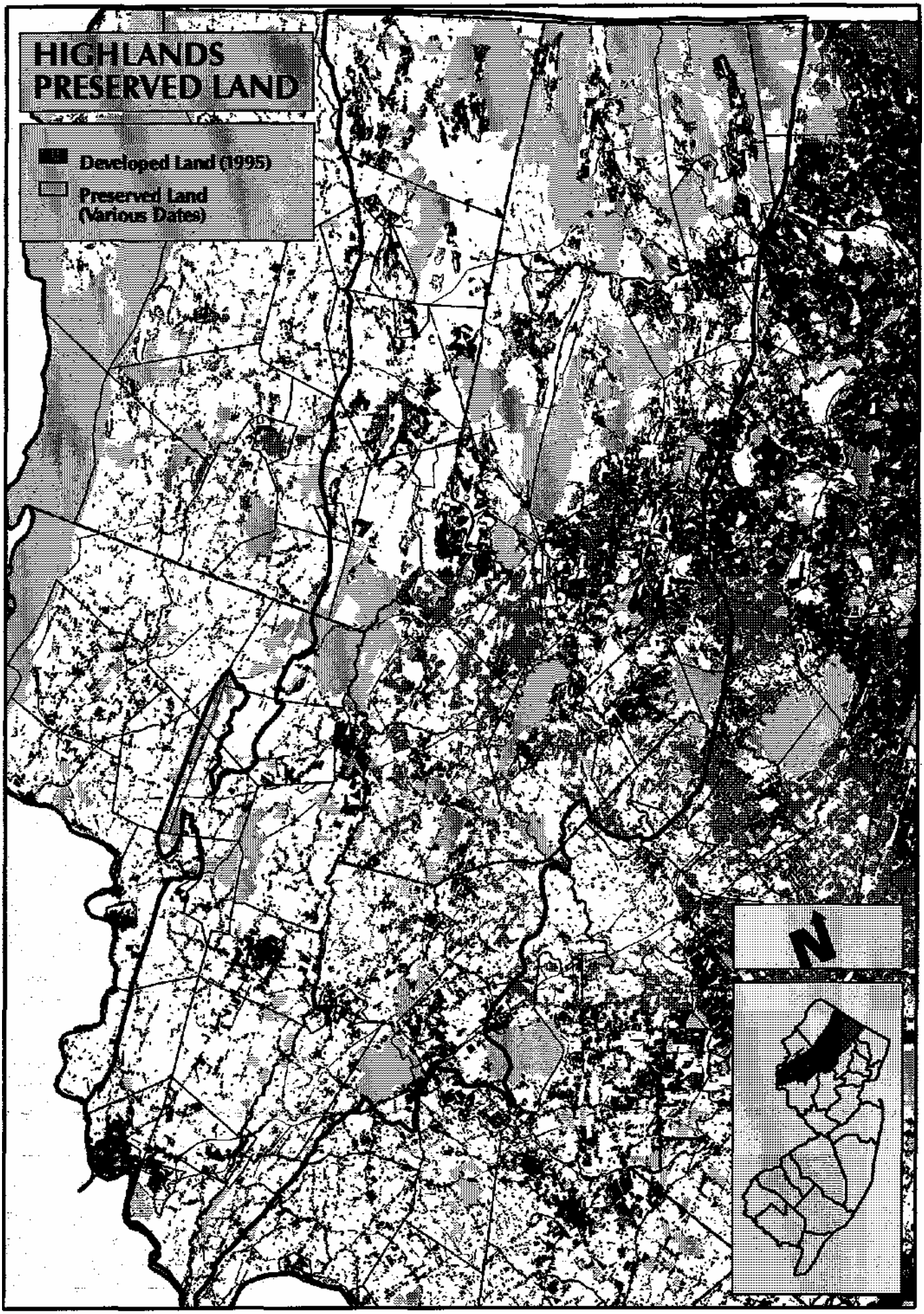
Land Use

Rutgers University and the Endangered and Non-game Species Program of DEP have been analyzing changes in land use and land cover from satellite imagery as part of a large habitat study. The study area includes both the Highlands and the Ridge and Valley provinces. Preliminary results show that between 1986 and 1995 nearly 31 square miles (about 20,000 acres) of land has been converted from its natural state, primarily forest, to other uses. Agricultural land use decreased by 384 acres. Land use changes showing an increase include:

Residential/mixed use	25.0 sq. miles (16,000 acres)
Commercial/industrial	2.0 sq. miles (1280 acres)
Institutional	2.2 sq. miles (1400 acres)
Extractive mining	1.1 sq. miles (700 acres)
Land being developed/ Indeterminate use	1.2 sq. miles (770 acres)

Information on the distribution of these changes is not yet available.

[18] USDA Forest Service. 1999. DRAFT Update of the Highlands Regional Study, April 13.
[19] As of 8/26/98, source, Green Acres Program



SOURCE: NJ Office of State Plannlno, NJDEP, 9-99.

Water Quality

Data from 1986-1995 collected at 10 monitoring stations in the Highlands Province were used to provide the following summary of water quality. Analyses of more recent data are being conducted and will be made available in the near future.

In the Highlands Province and statewide, monitored locations have sufficient dissolved oxygen to support healthy aquatic life and have stable or increasing (improving) trends. In addition, monitored locations do not show evidence of un-ionized ammonia, which is toxic to fish. These improvements in water quality resulted from upgrades and regionalization of sewage treatment plants.

In the Highlands Province and statewide, total phosphorus and fecal coliform often exceed Surface Water Quality Standards. Elevated total phosphorus may contribute to eutrophication of lakes. However, many locations have trends toward improving (lower) total phosphorus concentrations. Elevated fecal coliform indicates poor sanitary water quality. Unfortunately, trends toward improving (lower) fecal coliform were not observed. Emerging issues include increasing trends in nitrate, which is problematic for drinking water supplies. Although levels do not exceed the Surface Water Quality Standards, concentrations are increasing. Efforts to maintain water quality successes and address remaining water quality issues are underway through the cooperative Watershed Management Program [Note: a description of the status of this effort is included in Section 2: DEP programs). This information was provided by the DEP's Division of Science and Research[20].]

Habitat

In addition to protecting water quality, forests, fields and wetlands provide important habitat for a broad array of animal and plant species. Despite New Jersey's protection efforts, that include land use regulations for wetlands and habitat areas and an aggressive open space acquisition program (Green Acres), we continue to lose critical wildlife habitat. In just the last three decades we have lost 40% of the critical migratory bird stopover habitat on Cape May peninsula and 50% of the state's bog turtle habitat[21]. The remaining Highlands forests and wetlands are critical for the survival of songbirds and bog turtles, as well as to more than 20 species of threatened and endangered species.

ori

DEP/DSR 1999. Personal communication with K. Schaffer, Sept. 1999. [21]

J. Sciascia, 1999. NJDEP/ENSP, Personal communication, August 1999.

Section 2: Planning and Investment in the Highlands Region

This section of the report focuses on the ongoing planning and investment activities in the Highlands Region. - including State and Federal agencies and programs, regional initiatives, and county and municipal planning activities - to focus discussion on the impact of these initiatives on Highlands resources and development patterns.

The State Plan

The Plan makes few specific references to the Highlands. The Highlands is mentioned in section II.B.17 (Statewide Policies/ Areas of Critical State Concern) and IV.D.3 (Role of the State Plan/Relationship to Areas of Critical State Concern). While the focus is to recognize the two statutorily delineated areas and on the issues of coordination with their respective management Commissions, the Plan also notes other "critical areas for which the SPC urges the proposal of policies to address development, redevelopment, and conservation issues." In the former section, the Highlands is noted separately; in the latter section, the Highlands is mentioned in tandem with the Skylands:

Role of the Plan: Areas of Critical State Concern *(IV.D.3.)*

> The State Planning Act recognizes the special statutory status of two areas of the State: the New Jersey Pinelands under the "Pinelands Protection Act," and the Hackensack Meadowlands under the "Hackensack Meadowlands Reclamation and Development Act." The State Planning Commission is required to "rely on the adopted plans and regulation of these entities in developing the State Plan." Nevertheless, the State Planning Commission has made efforts to cooperate and coordinate with these entities throughout the Cross-acceptance Process. Provisions of the State Plan that are relevant to these entities have been derived from that cooperative and collaborative process.
>
> In addition to the two areas above, other critical areas of the State have been brought to the attention of the Commission. These areas include: the Delaware-Raritan Canal, the **Highlands and the Skylands,** the Delaware River and Bayshore area, the Delaware Water Gap Watershed Recreation Area and the Great Swamp Watershed. The State Planning Commission urges those participating in Cross-acceptance to recommend policies as appropriate to address development, redevelopment and conservation issues in these and other regions of New Jersey *(IP: 230).*

The Plan mentions the Highlands specifically in one statewide policy on infrastructure investment:

Policy 29 : Infrastructure Investments and Travel, Tourism and Seasonal Demands

> Plan, design, construct and maintain infrastructure in accordance with capital plans that address the special seasonal demands of travel and tourism throughout the State, using innovative management techniques (e.g., reverse lanes) where appropriate and giving priority to the primary resource-based recreational areas of the New Jersey Shore and the **Highlands.** Access to, mobility within and adequate water supply and treatment facilities for these areas

> should be managed to satisfy seasonal demand while protecting the resource (IP:98).

There are two additional references to the Highlands in Section III / RPMS. The description of the Metropolitan planning area notes that the Highlands functions as the effective environs for the metropolitan region of northern NJ:

> ***The Metropolitan Planning Area*** contains large tracts of open space, often in the form of county and state parks and preserves, significant natural areas, and extensive waterfronts. However, this Planning Area does not generally have Environs in the form of open land separating communities and protecting natural and agricultural resources. In most instances, the large tracts of contiguous farmland, forest and environmentally sensitive lands in Fringe, Rural and Environmentally Sensitive Planning Areas function as the Environs of the Metropolitan Planning Area, as do the Pinelands, **the Highlands areas of New Jersey and New York,** and other open space throughout the tri-state *area.(IP: 150).*

And the description of the Environmentally Sensitive planning area notes the Highlands as an example of the valuable environmentally sensitive features typical of this planning area:

> ***The Environmentally Sensitive Planning Area*** covers more than one million acres throughout New Jersey and contains large contiguous land areas with valuable ecosystems, geological features and wildlife habitats particularly in the Delaware Bay and other estuary areas, **the Highlands region,** and coastal area. The future environmental and economic integrity of the state rests in the protection of these irreplaceable resources. Some of these lands have remained somewhat undeveloped or rural in character. Other areas, particularly New Jersey's coastal barrier islands, have experienced advanced levels of development, but remain highly vulnerable to natural forces *(IP: 178).*
>
> In the **Highlands,** communities and regions must protect the integrity of contiguous forested areas and scenic natural landscapes and features in equitable ways. And so for other environmentally sensitive areas of the State, each political unit must determine how they want to relate to natural systems that reach far beyond their boundaries as well as how to protect specific features within their developed areas *(IP: 183).*

This is the full extent of specific references to the Highlands within the State Plan.

Federal

USDA Forest Service has substantial interest in the forest resources of the Region. The *NY-NJ Highlands Regional Study,* published in 1992, may be considered the seminal or baseline report on the resources and issues of the Highlands. The Forest Service has worked with NJDEP and other stakeholders to foster collaboration and public participation in discussions and issue identification for the Region. Currently, they are

awaiting appropriation of funding for the first year $1.5 million, 2-year update to include expansion of the study area into Pennsylvania and Connecticut and digitized mapping. The Highlands province subdivides north and south (based on galciated history) and will be further subdivided into ecological landscape units according to the national Ecological Classification and Mapping framework (ECOMAP).

The Forest Service's role in the Highlands is one of partner and participant to help focus financial assistance, provide data and technical assistance for resource planning and management, and assist with the demonstration of land conservation, especially through the Forest Legacy Program. This program has identified funding needs of $24,750,000 to purchase and protect the diversity and health of forest resources on 6,265 acres in Morris, Passaic, Sussex and Warren counties.

In 1999, the Forest Service, in cooperation with RPA, held focus groups to identify the challenges and opportunities facing the Highlands.

US Dept of Interior/ USGS - NJ District The US Geological Survey has done extensive hydrogeologic studies across New Jersey, many focusing on systems or issues within the Highlands Region. In addition to surface water quality monitoring and reporting in conjunction with NJDEP, the Survey has studied:

- the groundwater supply conditions in Long Valley, Morris County,
- ground and surface water connections in the Rockaway Rover above the Boonton reservoir,
- groundwater and surface water interactions in the northern Passaic watershed, and
- effects of watercraft using oxygenated fuel in the lakes of the NJ Highlands.

The National Water Quality Assessment Program is currently scrutinizing two study units
- the Long Island-New Jersey Coastal Drainage and the Delaware Basin - which encompass the Highlands Region. The objectives of this program is to describe surface- and ground-water resources, detect trends in water quality, and identify the primary natural and human factors that affect the quality of these water resources.

US Army Corps of Engineers has done several studies on flood control and restoration for rivers in or affected by the Highlands, including the Passaic, the Ramapo, and, in 1998, the Upper Rockaway.

USEPA has designated several sole source aquifers in the Highlands Region.

State

Department of Environmental Protection (DEP)

In addition to the its permitting functions, DEP's interest and action in the Highlands Region has included research and investigation, mapping, land acquisition and management, and, most recently, outreach and planning for water quality under the Office of Watershed Management. This section gives brief descriptions and updates of initiatives specifically targeted to the Highlands.

In 1990, the Department issued The *Skylands Greenway: River to River, a* greenway plan for linking and protecting the natural, cultural, and recreational resources of the

Skylands region. The area under study was considered to be a part of the Highlands Region.

Green Acres/Open Space Acquisition

The 1994 New Jersey Open Space and Outdoor Recreation Plan is one of the few functional plans that specifically addresses the Highlands (see Appendix) and identifies a specific state policy regarding the Highlands as follows:

> *It shall be the policy of the State of New Jersey to protect critical natural, historic, and scenic resources of the Highlands and Skylands to promote balanced growth and development*

The Green Acres Program has directly acquired or assisted in the acquisition of over 86,000 acres of recreational and open space lands in the Highlands Region since 1961[22]. Of the 86,000 acres, 64,000 acres were for State Parks and Forests, natural areas, recreational areas, historic sites, and wildlife management areas. The remaining 22,000 acres were purchased in concert with Counties and Municipalities in the region. In the present funding cycle, $2.5 million has been earmarked for the acquisition of a Highlands Greenway [3] (see below). The Green Acres Program has identified the Highlands as one of six *Geographic Areas of State and Regional Concern.*[24] As a designated area of concern, the Highlands will receive priority consideration for open space acquisition.

Of the over 90 municipalities throughout the State that have initiated Local Government Open Space Funding Programs, over 40% lie within the Highlands. [25] Some of these comminutes will be able to leverage their local funds with Green Acres monies once they have developed and gained approval of comprehensive Open Space Preservation Plans. In addition, five of the seven counties within the Highlands have also created Open Space Funding Programs (See more detail in the Local Planning section). The potential effect of the combination of State and local monies to acquire lands within the Highlands will be significant, especially when compared to other geographic regions of New Jersey.

The Garden State Preservation Trust Fund Account has the following appropriations targeted for future projects in municipalities principally or solely within the Highlands Region:

For State Acquisition:		
Highlands Greenway	$2,500,000	Bergen, Morris, Passaic, Sussex
Jenny Jump State Park	$1,000,000	Warren
Musconetcong/Pohatcong River Greenway	$1,000,000	Hunterdon, Morris, Sussex, Warren
Pequest River Greenway	$1,500,000	Sussex, Warren

[22] As of 8/26/98, source, Green Acres Program

[23] source, Garden State Preservation Trust Fund Account for 1999

[24] *"Meeting the Challenge: Preserving One Million More Acres of New Jersey's Open Space",* March 1999, NJDEP Green Acres Program

[25] Source, Green Acres Program, as of December 1998

Watershed Lands	$2,000,000	Morris, Passaic
Various Acquisitions	(part of $1,500,000)	8 of 24 projects are in Highlands munic.

In addition, more than $25 million has been earmarked for grants and loans to assist local government units with land acquisition for recreation and conservation purposes including $5,697,000 for Morris County projects, $200,000 for Warren and $120,000 for Somerset.

Watershed Management

In 1997, the Department proposed a watershed management approach to its environmental planning, monitoring and permitting programs. This approach places greater attention on the resource and on results; encourages collaboration through local partnerships and stewardship; will generate cost savings through efficiency in monitoring, permitting and reporting; and provide greater predictability for water resource management.

The Highlands physiographic province is located in six Watershed Management Areas (1,2, 3, 6, 8 and 11; see Map 10 - Watershed Management Areas. Note that the Highlands boundary on this map follows that of the municipal boundaries of those communities with any portion in the Highlands, since the community would be included in watershed planning efforts.) The status of watershed management planning in each of these areas is summarized below.

WMA1 - Upper Delaware - The planning process began in the Musconetcong sub-watershed in April, 1998. The Musconetcong is totally within the Highlands Region. A Public Advisory Committee, Public Education and Outreach Sub-committee and five workgroups have been formed and are actively working with the Department on watershed management in this area. A watershed characterization and assessment report is under development. Monitoring to verify water quality impairments identified on the 303(d)[26] is also underway. Watershed management planning is scheduled to begin in the Pohatcong/ Lopatcong sub-watersheds in the fall of 1999.

WMA 2 - Wallkill, Pochuck, Papakating - A scope of work to initiate the planning process in the Wallkill watershed has been drafted and should be finalized this fall. Most of the Wallkill watershed is in the Highlands Region. The initial activities to be conducted under the contract include establishing a structure for the watershed partnership, developing a vision, identifying issues, and developing the baseline water quality in the watershed. This baselining activity is critical for the planning effort to determine the appropriate management strategies for a given water quality. Strategies will be selected to maintain the water quality that is currently above standards while restoring any areas that are not currently meeting standards.

WMA 3 - Pompton, Pequannock, Wanaque, Ramapo - Almost the entire WMA is located in the Highlands Region and contains many reservoirs and surface water supply intakes. Preliminary discussions have been held with one entity interested in being the lead watershed management planning entity for this area. It is anticipated that the watershed management planning process will begin in this area by the end of the year. Monitoring to verify water quality impairments identified on the 303(d) is complete and

[26] The "303(d) Lisf is the list of water quality limited water bodies submitted to USEPA as per section 303(d) of the Clean Water Act.

analysis of the data is underway to confirm the need and scope for total maximum daily loads (TMDLs) for the Passaic River that need to be established by June 30, 2002. WMA 3 was also identified as a priority watershed in the "Unified Watershed Assessment Plan for New Jersey" submitted to EPA in September 1998. A portion of 1 million dollars will be available for watershed restoration projects in WMA 3 in July 2000. A Watershed Restoration Action Strategy must be submitted to EPA by December 1999. The Department will be working with its watershed partners to identify specific non-point source related watershed restoration project(s) in WMA 3.

WMA 6 - Upper Passaic, Whippany, Rockaway - Watershed management planning began in the entire WMA in 1997. A Public Advisory Committee and Steering Committee, Technical Advisory Committee, Public Education and Outreach Committee and Open Space Committee have been formed and are actively working with the Department on watershed management for WMA 6. A watershed characterization and assessment report is near completion. Monitoring to verify water quality impairments identified on the 303(d) is complete and analysis of the data is underway to confirm the need and scope for total maximum daily loads (TMDLs) for the Passaic River that would need to be established by June 30, 2002.

WMA 6 was identified as a priority watershed in the "Unified Watershed Assessment Plan for New Jersey" submitted to EPA in September 1998. A $500,000 Watershed Restoration Grant will be awarded to WMA 6 in the fall of 1999 to implement the Watershed Restoration Action Strategy that was submitted to EPA in March 1999. The strategy included 11 projects submitted by watershed partners in WMA 6 and the Whippany River Watershed. The Department will be working with its watershed partners in WMA 6 in the fall of this year to identify additional projects and funding opportunities to address issues of concern within WMA 6.

The Whippany River Watershed Project is located in WMA 6. This project has served as the Department's pilot effort for watershed management. This effort, started in 1993, served as the basis for the Statewide Watershed Management Framework Document for the State of New Jersey that was published by the Department in January 1997. The Whippany River Watershed Management Plan is scheduled for completion by the end of this year. The Plan will include "Phase 1" TMDLs for fecal coliform and phosphorus in the Whippany River Watershed requiring the implementation of both short and long term management measures for reducing fecal coliform and short term strategies for reducing phosphorus levels in the Watershed. Long term reduction strategies for phosphorus will be developed through the Passaic River TMDL. Other issues that will be addressed in the Whippany River Watershed Management Plan include sedimentation, ground water protection and public education and outreach to increase public awareness about the watershed and its valuable resources. The Whippany River Watershed Public Advisory Group, Technical Advisory Committee and Project Development Committee are currently working on applying the watershed model that was developed to help develop strategies to achieve watershed goals articulated in the plan. Almost the entire WMA is located in the Highlands Region.

WMA 8 - North & South Branch Raritan - Watershed management planning began in the entire WMA in February. The upper reaches of the watershed are in the Highlands Region. Current activities include creating the organizational structure for stakeholder participation in the planning effort and the development of the baseline conditions in the

watershed. The Upper Raritan Watershed Association in cooperation with NJDEP is completing GIS coverage for the region and surface water classification mapping is complete. Education and outreach efforts have begun in this WMA through the efforts of NJDEP and the Upper Raritan and South Branch Watershed Associations.

WMA 11 - Central Delaware - Formal watershed management planning should begin in this area next summer. Only the northern most section of the WMA (northern Lockatong Creek) is in the Highlands Region. Stream walks, volunteer monitoring and non-point source grant work will begin this summer through non-profit groups in the area.

DEP published *The Statewide Water Supply Master Plan,* referenced elsewhere in this report, in !996. The information included in the Plan is not structured to permit analysis of the Highlands water supply issues. There are plans to bring the Plan's planning area boundaries in alignment with the new Watershed Management Areas and to re-assess water balance within each planning area.

DEP also reviews and approves wastewater management plans, water supply allocations, treatment works for waste and drinking water, and supplies grants and loans for infrastructure improvements through the NJ Environmental Infrastructure Financing Program (NJEIFP). A listing of projects receiving USEPA grants under the Construction Grants Administration Program and loans under the NJEIFP can be found in the Appendix to this report along with a list of feasibility studies and various water quality studies (1980-present).

Landscape Project

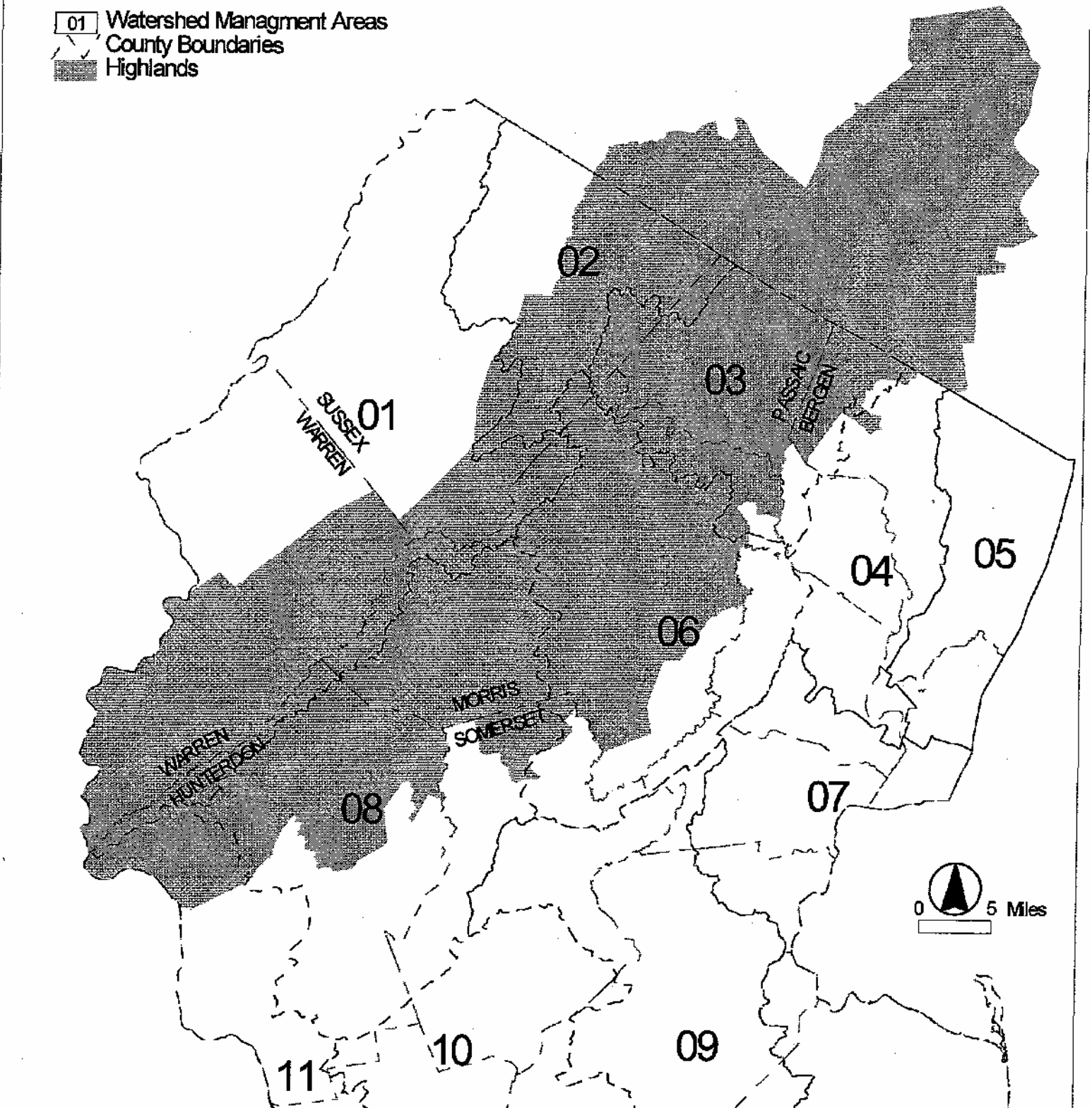
Created in 1993, the Landscape Project is a nationally recognized approach to mapping and protecting wildlife. The Endangered and Non-game Species Program (ENSP), in cooperation with Rutgers University, is developing GIS maps that identify critical rare species habitats based on land use classifications, rare species locations, and habitat requirements. One of the unique features of the Landscape Project is that it focuses on the big picture and not just on individual rare species locations as they become threatened. It identifies critical wildlife habitats within large landscapes - forests, wetlands and grasslands - that must be preserved if we want to assure the conservation of New Jersey's rare wildlife and biodiversity for future generations. The mapping has been completed. Once the maps become available, they will enable state, county, municipal, and private agencies to identify important habitats and develop specialized protection strategies. The landscape project embraces both the Highlands and the Ridge and Valley physiographic regions.

ECOMAP

The NJ Forest Service has embarked on a 1.5 year project, using the ECOMAP framework (see USDA Forest Service, above), to develop a watershed characterization and assessment procedure to identify watershed constraints and forest management action strategies needed to restore, protect and improve water quality. Work on the Ridge and Valley province is completed and the DEP, funded by the USDA Forest Service, is continuing work on the NJ Highlands.

MAP 10

Highlands and Watershed Management Areas



Department of Transportation (DOT)

Three major interstate transportation corridors traverse the New Jersey Highlands, I-78, I-80 and I-287. These three roadways pass through potable water supply watersheds, posing the potential conflict between growth and water supply objectives[27]. Also to be considered are the secondary impacts of the completion of the I-287 corridor.

The latest state transportation plan, *New Jersey First A Transportation Vision For the 21st Century,* published by New Jersey Transit, calls for a vision for the 21st century to provide "a transportation system that provides diverse and convenient travel choices." In this plan the I-80 corridor is identified as a "Priority Corridor" to be the first beneficiary of "intelligent" technology and to be the "North Jersey showcase corridor to demonstrate first-class maintenance efforts." One of the three "Planning Corridors" identified includes the 1-78/I-287 "Suburban Growth Corridor". This Plan also calls for building 2,000 miles of bicycle paths and within five years establishing five scenic byways, the only one in the state now being the Rt. 29 corridor from Frenchtown to Trenton along the Delaware River. The plan identifies four "Bike and Scenic Byways", including the "Highpoint Area" and the entire "Delaware" River corridor, parts of which are in the Highlands.

The Department's five year capital program (FYOO-04) or Study and Development Program (FYOO-01) for the Highlands listed predominantly bridge preservation, rehab and replacement projects; roadway preservation, including drainage and a new truck weigh station, highway rehab and reconstruction projects; intersection improvements for congestion management; roadway operational and safety improvements; quality of life projects, including landscaping along I-80, sign and noise projects; pedestrian and bicycle improvements; and even dam replacements. Except for the pedestrian and bicycle improvements, these appear to be predominantly maintenance projects, although rehabilitation and reconstruction of roads, intersections and bridges can increase capacities.

There are capital or study and development projects that can have major impacts, such as the Route 57 Corridor Study from Route 22 to Route 182 corridor study in Warren and Morris Counties and a strategic mobility economic development project on Route 10 in Parsippany-Troy Hills in Morris County. There is a planning study for Route 15 from Route 46 to Route 206, which traverses Sparta, Lafayette, Sandyston and Branchville in Sussex County. Also to be studied in Sussex County is a proposed widening of Route 181 to Route 94 (Morris Farm Road) which passes through Sparta and Lafayette. Also listed is a study for a "Northwest New Jersey Visitor Center" in Alpha Boro in Warren County, under the program category of Strategic Mobility Economic Development.

Not included here are the previous years' transportation improvement programs, such as a Hunterdon County study to improve the Route 31 and Interstate 78 corridor. Warren County also mentioned the Hackettstown areawide transportation study, which includes a proposed bypass, and the Route 31/46 Corridor Needs Study. Not listed as well is the Route 23 bypass in Sussex County or Hopatcong's proposed Route 605 extension from Hopatcong through Stanhope to Route 206.

Also, this report does not include an assessment of secondary impacts from these cumulative improvements along transportation corridors nor how future improvements

[27] NJDEP 1996. *The Vital Resource: NJ Statewide Water Supply Master Plan* (p 136).

might impact the region. For example, the *New Jersey Sunday Herald* reported on April 25, 1999 that traffic on Route 15 is estimated to nearly quadruple with the next 35 years. DOT reported that in response to this,

> To ease congestion, short-term improvements within the next ten years include: widening the highway to three separate lanes near its intersection with Route 80, expanding the parking lot area at the Sparta park-n-ride, and adding shoulder lanes where they are non-existent. Long-term proposals in the next 15 to 20 years include: making Route 15 a four-lane highway between Route 206 in Frankford, and the railroad crossing jut past Houses Corner Road in Sparta (a site involved in litigation), expanding the highway to six lanes between Espanong Road in Jefferson and Picatinny Arsenal, and signalizing the Route 181 and Route 15 intersection near the Blue Heron interchange.

To these road improvements across the Highlands, which do not include any county or municipal sponsored improvements, we can add New Jersey Transit projects.

New Jersey Transit

Three significant rail projects to provide new passenger service to the Highlands are under consideration, as well as the provision of two new bus and rail hubs, and a new Transit Village at the Morristown Station. These are the plans, studies or projects that NJ Transit is pursuing:

1. NYS&W - New York, Susquehanna and Western Passenger Service Project

This commuter rail extension project is currently in a preliminary engineering phase. The line would use the existing and active freight line; a western terminus of Sparta has been proposed and a decision is pending based on analysis of storage yard site options. The Environmental Assessment (EA) completed in 1996 was given a "Finding of No Significant Impact" by the Federal Transit Administration. NJ Transit is seeking to construct a 300-space parking lot at the proposed Newfoundland Station in West Milford in advance of the implementation of rail service since the existing park-and-ride lot is nearing capacity.

2. Lackawanna Cut-off Passenger Service Project

Under the sponsorship of Morris, Sussex, and Warren counties, a major investment study and EA are being prepared for the implementation of passenger service on this abandoned rail right-of-way recently acquired by DOT. Although the line would begin in the Highlands, the expected stations will not be in the Highlands. The easternmost station is expected to be in Andover[28].

3. Proposed Commuter Rail Extension to Phillipsburg:

Phillipsburg has represented an interest in the restoration of rail passenger service; two rail lines offer options for this. The Raritan Valley Line, terminating in High Bridge, operated to Phillipsburg until the early 1980s; NJ Transit owns this line. The second option would be the extension of NJ Transit's Boonton Line that now runs west to

[28] Note that Andover lies at the western edge of the Highlands region and is considered a Highlands municipality on this report.

Hackettstown. The extension would use the Washington Secondary line owned by Norfolk-Southern Railway. NJ Transit is not currently working on this issue.

4. West Milford Bus Park-ride Expansion: Passaic County
Working with the Town of West Milford to expand the existing 114 space Greenwood Lake lot by 50 spaces. NJ Transit is acquiring the property, which lies in the Pequannock watershed, from the Dept. of the Treasury.

5. Proposed Howard Blvd Rail Station/Park-ride: Morris County
NJDOT & NJ Transit are in the early stages of designing a bus and rail facility where Howard Blvd. Intersects with I-80- and the Boonton Line at the border of Mt. Arlington and Roxbury. NJ DOT is managing the engineering design for the 500 space parking facility and new rail station.

6. Proposed Clinton Park-ride Facility: Hunterdon County
Clinton Twp and Hunterdon County are currently exploring their proposal that NJ DOT and NJ Transit develop a rail, bus carpool facility near the intersection of I-78, Rte 22 and the Raritan Valley Line. This would be a consolidation of existing facilities that are currently at capacity.

7. Morristown Station Transit Village: Morris County
NJ Transit is working with the municipality to implement a residential joint development project on an existing parking lot at the Morristown Station, recently designated a Transit Village. The Town has rezoned the property to allow for this use and NJ Transit has issued an RFP for the development.

Department of Agriculture

State Agriculture Development Committee (SADC)

The 1998 Final Report on the Governor's Council on New Jersey Outdoors reported that

> Of the more than 800,000 acres of productive farmland in New Jersey, only 37,200 acres have been preserved through the sale of development rights to the state. The farmland program had documented an 89,000 acre backlog of farmland ready to enter the farmland program. An estimated 500,000 acres of farmland is needed to maintain a critical mass for agricultural production.

As of August 20, 1999, the SADC reported that 54,950 acres of farmland have been preserved through the New Jersey Farmland Preservation Program. Of this acreage, approximately 6,500 acres were preserved in the Highlands, with 834 acres in Hunterdon County, 2,246 acres in Morris (all in Washington Twp.), 296 acres in Sussex, and 3,131 acres in Warren County. (See Local Section and Appendix for more details.)

The new Garden State Preservation Trust Fund annual allocations for farmland preservation will help achieve the farmland preservation goals in the state, as will the new Planning Incentive Program (PIG) which allocates another $5 million dollars to farmland preservation.

Department of Community Affairs (DCA)

Like other state agencies, DCA has no programs which target Highlands communities. However, these communities are eligible for DCA grant programs, such as the Small Cities Community Development Block Grants for public facilities, housing rehabilitation, and neighborhood preservation.

Sussex County has been selected to receive a $300,000 planning grant to develop a regional strategic growth management plan and the Highlands counties and municipalities are eligible for funding for planning under the new $3 million smart growth planning grant program.

Department of the Treasury

Although the Department reported leasing space in various Highlands communities for a number of state functions, including Community Affairs, Human Services, Labor, Transportation, Judiciary, Environmental Protection, Law and Public Safety, there were no significant changes anticipated in leasing that space. No additional information was provided on any anticipated changes in state-owned property.

Commerce and Economic Growth Commission

The NJ Commerce and Economic Growth Commission, through its Department of Client Promotion, to date has assisted two firms in moving to this region. The department functions in a response to a request for information from a company or client with specific interests and reports to have had little business attraction activity in the Highlands Region. However, this does not take into consideration the activities of local economic development groups or reflect the growth of the economy of the region.

The Office of Travel and Tourism identifies the Skylands as a regional destination for tourism, but does not recognize the Highlands as a separate area. There are six regions identified: the Shore, Greater Atlantic City, Southern Shore, Delaware River, Skylands and Gateway. The Gateway region includes the Highlands municipalities in Passaic and Bergen counties. While the statewide county average for travel and tourism expenditures is approximately $1.24 billion, the counties with substantial acreage in the Highlands (Hunterdon, Morris, Passaic, Sussex and Warren) average $0.46 billion in tourism expenditures - just 37% of the statewide average. The Skylands region shares about $2.4 billion in tourism dollars, the same as the Southern shore region, an area about half the size, suggesting to the potential under-development of travel and tourism in this region.

Regional

Palisades Interstate Park Commission (PIPC)

The Palisades Interstate Park Commission (PIPC) was created in 1900 as a New York-New Jersey interstate agency whose purpose is to conserve and manage lands for their scenic, habitat and recreational values. The Commission currently owns and manages approximately 100,000 acres and serves over 9 million visitors a year. The Commission's newest addition to its park system is Sterling Forest, 15,000 acres in the

middle of the NY-NJ Highlands. Sterling Forest was purchased with monies from both New York and New Jersey, and was purchased in large part for its water quality values.

PIPC has been operating in a portion of Bergen County since its creation. In 1995 legislation was passed that expanded PIPC activities into six of the Highlands counties—Bergen, Passaic, Morris, Warren, Somerset and Hunterdon...all, except Sussex County.

As its first contribution to the knowledge base of the Highlands, PIPC commissioned the Passaic River Coalition to prepare an inventory of and GIS maps identifying undeveloped lands and federal, state, county, municipal, non-profit and watershed lands - by municipality -- within the PIPC six county jurisdictional region. No summary information has been developed.

PIPC is in the process of determining how it may be the most value to the communities in the Highlands.

NJ Transportation Planning Authority (NJTPA)

The North Jersey Transportation Planning Authority (NJTPA), the federally sanctioned transportation Metropolitan Planning Organization (MPO) for northern New Jersey, is made up of 13 counties: Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union and Warren, and two major cities: Newark and Jersey City (see Map 11 - NJTPA Region). In all, the region encompasses 385 municipalities and 4,200 square miles - more than half of the New Jersey's total land area. The NJTPA region is home to 5.9 million people - 74 percent of the state's total population - and is the fifth largest MPO region in the nation. NJTPA is one of 3 MPOs in New Jersey; the other two are the South Jersey Transportation Planning Organization, and the Delaware Valley Regional Planning Commission which serves as an MPO. The NJTPA Board of Trustees consists of one elected official from each of the region's 13 counties and two major cities, as well as a Governor's Representative, the Commissioner of NJDOT, the Executive Directors of NJT and the Port Authority of NY-NJ (PANYNJ), and a Citizens' Representative appointed by the Governor. Input is also received from the Regional Transportation Advisory Committee (RTAC) composed of county planners/engineers and representatives of the NJDOT, NJT, and the PANYNJ.

The Regional Transportation Plan for Northern New Jersey, last updated in 1998, is the 20-year comprehensive long-range inter-modal transportation plan for the region. It identifies 18 broad transportation corridors "for the purposes of analyzing specific mobility needs and presenting near-term improvement projects that will begin to address them[29]."

> The 18 corridors range in size from the 38 square-mile corridor in Bergen County surrounding Route 3 with 250,000 residents to the 1,225 square-mile corridor covering the New Jersey shore area centered around the Garden State Parkway and the North Jersey Coast Rail Line with 1.1 million residents. For each corridor, the Plan identifies mobility issues, capacity issues, needed right—of-way preservation, existing infrastructure, planned near-term TIP investments and planned authority investments.

[29] NJ Regional Transportation Plan: Update 1998, Executive Summary (p xvii).

The 18 NJTPA Regional Transportation Corridors are defined by major highways and rail facilities and the major flows of travel they encompass (see Map 12- NJTPA Corridors). In each corridor, travel flows also take place within and among identified "subareas." The long range plan identifies the "Skylands" as a major tourist/recreational destination, but does not recognize the "Highlands". Subareas are located *within a corridor*[30].

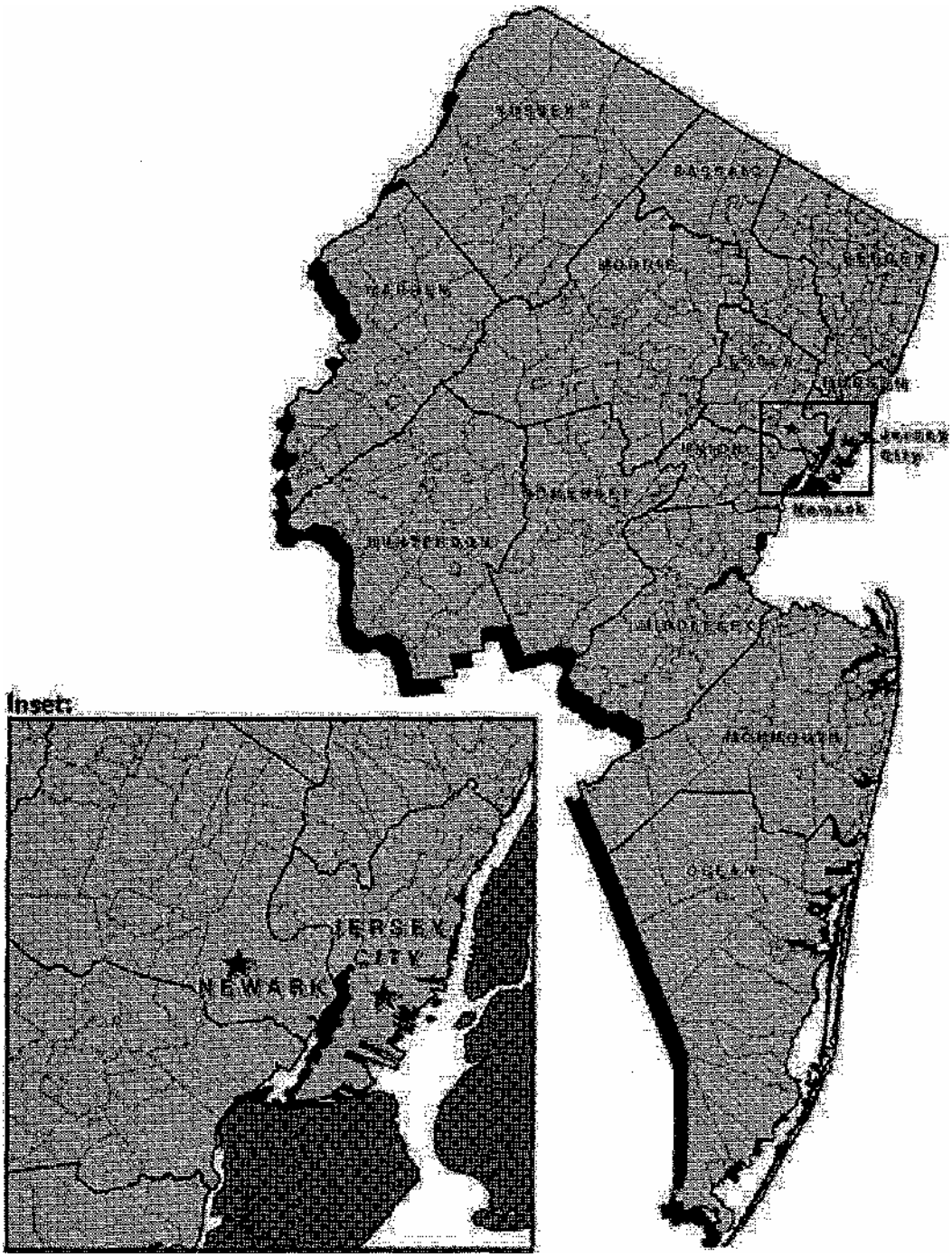
Six corridors are found in the Highlands Region:

Corridor #4 - [-78 Hunterdon, Somerset, Warren
Corridor m-US206
Corridor #14 - I-287/NJ440
Corridor #15-1-287
Corridor #16-NJ31
Corridor #17-NJ23

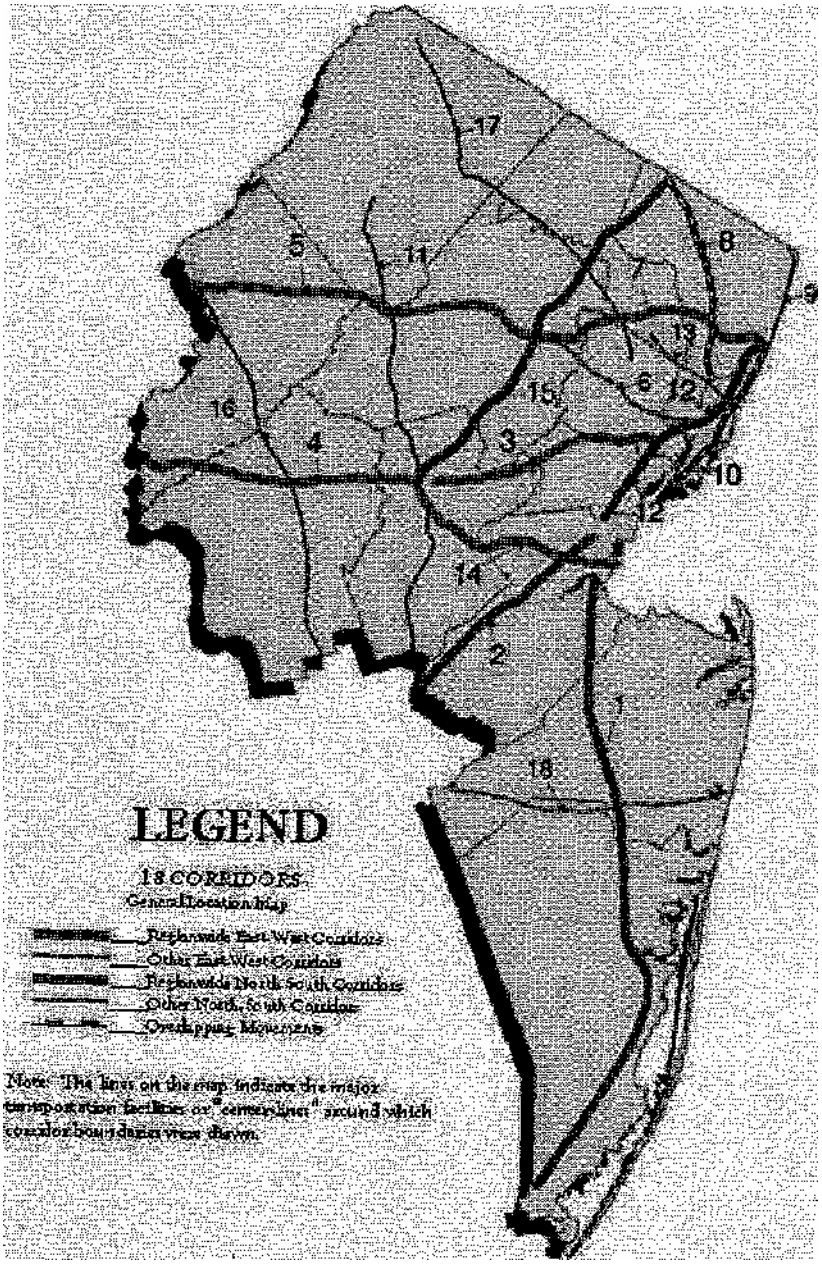
Additional information on each of these corridors can be found in the Appendix.

[30] NJ Regional Transportation Plan: Update 1998 (p 76).

MAP 11



HAP 12


17
5
11
7
8
9
13
15
6
12
16
4
3
10
12
14
2
1
18
LEGEND
18 CORRIDORS
General Location Map
Regionwide East-West Corridors
Other East-West Corridors
Regionwide North-South Corridors
Other North-South Corridors
Overlapping Movements
Note: The lines on the map indicate the major transportation facilities or "centerlines" around which corridor boundaries were drawn.

Local

Counties

The seven counties in the Highlands Region are: Bergen (BER), Hunterdon (HUN), Morris (MOR), Passaic (PAS), Somerset (SOW), Sussex (SUS), and Warren (WAR). A matrix (see Table 5) of the county planning documents prepared since the 70's, by topic, was developed from the complete listing of planning documents and projects which can be found in the Appendix. This review focuses on efforts since 1990.

Comprehensive Planning

Hunterdon County has been preparing a Growth Management Plan; Sussex is embarking on such an effort; and Warren is planning an effort for the Southern sub-region. Somerset County conducted a reexamination of its Master Plan. Warren and Passaic Counties prepared Natural Resource Inventories and Morris County has such a project in progress. In 1991 Morris County completed a residential build-out analysis for the entire county.

Farmland Preservation, Open Space and Historic Preservation

With the new funding for farmland preservation, open space, and historic preservation, all but Bergen and Passaic Counties are preparing Comprehensive Farmland Preservation Plans for submission to the State Agriculture Development Committee (SADC). While Bergen is in the process of creating a County Agricultural Development Board (CADB), Passaic just formed one. Passaic and Warren Counties explored open space opportunities; Somerset is in the process of updating its Parks, Recreation and Open Space Master Plan; and Somerset and Warren Counties looked at historic preservation. Somerset County has a new Somerset County Historic Preservation Trust Fund and has instituted a County/Municipal Greenways Partnership that matches county with municipal dollars for open space preservation.

In the five counties participating in farmland acquisitions, all but one of them, Somerset County, are acquiring farms in Highlands municipalities. Although there are active farms in the four Highlands municipalities of Somerset County, these municipalities which are all delineated Environmentally Sensitive (PA5) are not included in the County's Agricultural Priority Areas and no farms in these municipalities have been preserved to date through this program. Finer details on farmland preservation can be found in the Appendix. Also to consider is the municipal and county farmland preservation goals not incorporated into this report, i.e. Morris County is targeting 9,000 acres.

Five counties in the Highlands have open space taxes; two - Hunterdon and Sussex -do not. Hunterdon will have an open space tax referendum on the ballot this Fall. Table 5 shows the open space tax collected by counties through March, 1999. Table 6 indicates the municipalities in the Highlands with open space taxes, 36 out of 90 municipalities, if we include all possible candidate municipalities.

Countywide land trusts include: the Hunterdon Land Trust Alliance and the Morris County Open Space & Farmland Preservation Trust. The Morris County trust provides funding to the Morris County Park Commission and the Morris County MUA for conservation projects.

Transportation
With transportation planning and investment representing a significant element of growth management, Hunterdon and Morris prepared comprehensive transportation master plans; Sussex has such a project in progress; and it is a future project for Warren County. Three counties, Hunterdon, Morris and Somerset, prepared Bicycle and Pedestrian Elements. Morris County is working on the regional NYS&W Bicycle and Pedestrian Path that will pass through two Highlands municipalities in Morris County (Riverdale and Pequannock) and terminate in Wayne Twp. in Passaic County. No county reported any major transportation investments being made or anticipated with county funds. Most major transportation investments are through the NJTPA planning and funding process.

NJTPA provided transportation funding to the counties for a variety of sub-regional transportation projects. Bergen County had looked at the transportation consequences of zoning build-out in the county in the beginning of the decade; Hunterdon now has such a project in process. Significant with the sale of CONRAIL, Hunterdon and Morris looked at freight movement. Bergen County continues to invest its planning energies into transit and redevelopment opportunities in its core municipalities; Morris and Somerset focus on transit access.

Water
In a time of drought or flooding, water planning reaches new relevancy. Both Morris and Warren Counties have created new Water Supply Master Plans. Morris with its stormwater management plan in place has been focusing on sub-watershed stormwater management plans and will be continuing to do so.

Economics
Somerset and Sussex Counties focused on economic development with Warren County planning a visioning plan to be tied in with Economic Development in the future. Somerset County held its first Economic Summit in 1997, with its last producing a video on Smart Growth.

Other
Hunterdon, and Warren reached out to the public in a survey for input on land use issues and Hunterdon explored quality of life issues. As part of "Millennium at Morris", the year-long initiative to celebrate the quality of life in Morris County, Morris 2000 is developing a Quality of Life Index. Somerset undertook a study on Scenic Corridors and Roadways and we await a Community Design Handbook to be published by Hunterdon County.

Centers
Lastly, Table 7 provides information on those Highlands municipalities with designated centers (11), petitions submitted for designation (21), and proposed centers (8), out of 90 potential candidates. The centers, as well as those surrounding the Highlands Region are shown on the Map 3 - Map of the Planning Areas and Centers -accompanying this report.

Municipalities

Except for Bergen County, the counties could not provide a listing of municipal planning documents. Some information was gathered from other sources and that information

can be found in the appendix, including a list of municipalities with known Natural (Environmental) Resource Inventories (Table 8). For example, the Musconetcong Watershed Association completed buildout analysis and fiscal impact reports for Bethlehem (1996) (Hunterdon), Byram (1997) (Sussex), and in Warren County, Mansfield (1997) and Washington Twp. (1996). Also included in the Appendix are the Master Plans on file with OSP.

Regional Coordination

There is some regional planning and coordination taking place, but not specific to the Highlands Region. For example, Morris and Somerset Counties have instituted intergovernmental development application procedures projects of regional significance; Somerset's program is voluntary. This region also has two of the three regional planning boards -- the Musconetcong and Lake Hopatcong Regional Planning Boards - which operate in an advisory capacity. Other institutions include the Great Swamp Watershed Ten Towns Committee (with five of the communities in the Highlands Region), as well as the Rockaway River Cabinet, and the Whippany River Watershed Committee.

The most significant regional planning and investment coordination is through the participation of the counties in the transportation Metropolitan Planning Organization (see NJTPA); but here, the focus is on transportation corridors and not sub-areas, such as the Highlands.

Table 4 : County Planning

TOPIC	BER	HUN	MOR	PAS	SOM	SUS	WAR
COMPREHENSIVE PLANNING							
Master Plan Growth	86	--•	•-•	---	87	-•	79
Management Land Use	-	IP	-	-	-	IP	F
Element Natural Resource	71	-	75	98	-	IP	-
Inventory Farmland	-	-	IP	93	83	-	99
Preservation Open Space	-	IP	IP	-	IP	IP	99
Recreation Historic	75	-	88	94	94/IP	-	99
Preservation	75	72	-	69	94/IP	-	-
	-	79	76	-	92	77	92
TRANSPORTATION							
Master Plan/Circulation Element	78	93	92	66	94	IP	82/F
Bicycle & Pedestrian							
WATER							
Water Supply Stormwater							
Management Wastewater							
Management Planning 71							
ECONOMICS							
Fiscal Analysis							
Economic Development							
OTHER							
Design							
Housing Element							
GIS							
Park Management Plan							
Public Survey	71	94					
Scenic Corridors							
Socio-Economic	89	94					
Solid Waste Management Plan							

–	97	98	–	97	–	–
71	66	94			•	97
73	–	E	–	–	–	75
71	–	85	72	–	79/IP	–
71			65			
–	–	–	–	95	94	F
	IP					
73	–	–	88	–	77	–
			93			
–	–	–	81	–	–	–
						98
				92		
				97		
						94/IP

E Existing undated document
F Future project IP
Project in progress

TABLE **5 COUNTY** OPEN

SPACE TAX **PROGRAMS**

COUNTY	YEAR APPROVED	RATE CENTS PERS100	ANNUAL TAX COLLECTED
Atlantic	1990	¼ Ct.	S 451.545
$ Bergen	1998	/2CL *	S 4,060,000
Burlington	1996/1998	4 cts.	S 7,600,000
Camden	1998	I CL	S 2,000,000
Cape May	1989	let.	S 1,334,605
Cumberland	1994	let	S 430,411
Essex	1998	let.	S 3,700,000
Gloucester	1993	let	S 1,200,000
Mercer	1989/1998	2 cts.	S 3,972422
Middlesex	1995	let	S 4,400,000
M on mouth	1987/1996	2.0-3.0 cts.	510,000,000
ff Morris	1992/1998	Sets.	512,699,128
Ocean	1997	1.2 cts.	S 3,800,000
#Passaic	1996	let.**	S 4,600,000
# Somerset	1989/1997	3 cts.	512.276,018
# Warren	1993	2 cts.	S 1,100,000

*** Bergen County's program also includes 520 million in bonds over 5ve years.**

**** Tax not implemented to date.**

NJDEP/Green Acres Program, March 1999.

 # Highlands Counties

Steve/coos taxprog

Table 6: Highlands Municipalities -with Open Space Taxes and Recreation Funding Programs

Bergen County

Mahwah*
Oakland

Hunterdon County

Alexandria*
Bethlehem*
Bloomsbury
Califon
Clinton Town
Clinton Twp*
Glen Gardner
Hampton
High Bridge
Holland
Lebanon Boro
Lebanon Twp
Milford
Tewksbury*
Union

Morris County

Boonton Town
Boonton Twp*
Butler
Chester Boro
Chester Twp*
Denville* Dover
Hanover Harding*
Jefferson* Kinnelon
Mendham Boro*
Mendham Twp.*
Mine Hill
Montville
Morris Twp.*
Morris Plains
Morristown
Mount Arlington
Mount Olive*
Mountain Lakes
Netcong
Parsippany-Troy Hills*
Pequannock
Randolph Twp.*
Riverdale
Rockaway Boro
RockawayTwp.*
Roxbury*
Victory Gardens
Washington Twp*
Wharton*

Passaic County

Bloomingdale
Pompton Lakes
Ringwood Wanaque
West Milford

Somerset County

Bernards*
Bernardsville* Far Hills Peapack-Gladstone*

Sussex County

Andover Boro
Andover Twp
Byram
Franklin
Green*
Hamburg
Hardyston
Hopatcong
Lafayette
Ogdensburg
Sparta
Stanhope
Vernon

Warren County

Allamuchy
Alpha*
Belvidere
Franklin*
Frelinghuysen
Greenwich Twp.*
Hackettstown
Harmony*
Hope
Independence*
Liberty*
Lopatcong
Mansfield*
Oxford
Phillipsburg
Pohatcong*
Washington Boro
Washington Twp.'
White*

Table 7 : Highlands Municipalities with Designated or Proposed Centers

Bergen County

Mahwah
Oakland

Hunterdon County

Alexandria
Bethlehem
Bloomsbury
Califon
Clinton Town (PR)
Clinton Twp (PR)
Glen Gardner
Hampton
High Bridge
Holland (PR)
Lebanon Boro (PR)
Lebanon
Milford
Tewksbury
Union (PR)

Morris County

Boonton Town
Boonton Twp
Butler
Chester Boro
Chester Twp
Denville Dover
(D) Hanover
Harding
Jefferson (PR)
Kinnelon
Mendham Boro (D)
Mendham Twp Mine
Hill Montville Morris
Twp Morris Plains
Morristown (D)
Mount Arlington (PT)
Mount Olive (PT)
Mountain Lakes
Netcong (PT)
Parsippany-Troy Hills
Pequannock
Randolph (PT)
Riverdale
Rockaway Boro (PT)
Rockaway Twp Roxbury
Victory Gardens
Washington Twp (PT)
Wharton

Passaic County

Bloomingdale (D)
Pompton Lakes
Ringwood Wanaque (D)
West Milford (PT)

Somerset County

Bernards Bernardsville
(D)
Far Hills (PT)
Peapack-Gladstone (PT)

Sussex County

Andover Boro (D)
Andover Twp (PT)
Byram (PT) Franklin (PT)
Green
Hamburg (PT) Hardyston
(PT) Hopatcong (D))
Lafayette. Ogdensburg
(PT) Sparta (PT)
Stanhope (PT) Vernon
(PT)

Warren County

Allamuchy (PR)
Alpha
Belvidere
Franklin
Frelinghuysen
Greenwich
Hackettstown (PT)
Harmony Hope (PT)
Independence (PT)
Liberty Lopatcong
Mansfield (PT) Oxford
(D) Phillipsburg
Pohatcong Washington
Boro (D) Washington
Twp (D) White

(D) Designated Centers
(PR) Proposed Centers
(PT) Petition Submitted

Table 8 : Highlands Municipalities with Known Natural Resource Inventories *

Bergen County

Mahwah*
Oakland

Hunterdon County

Alexandria*
Bethlehem*
Bloomsbury
Califon
Clinton Town
Clinton Twp*
Glen Gardner
Hampton*
High Bridge
Holland
Lebanon Boro
Lebanon Twp
Milford
Tewksbury
Union

Morris County

Boonton Town
Boonton Twp Butler
Chester Boro
Chester Twp*
Denville Dover
Hanover Harding*
Jefferson Kinnelon*
Mendham Boro
Mendham Twp
Mine Hill* Montville*
Morris Twp Morris
Plains Morristown
Mount Arlington
Mount Olive
Mountain Lakes*
Netcong
Parsippany-Troy Hills
Pequannock *
Randolph* Riverdale
Rockaway Boro
Rockaway Twp
Roxbury Victory
Gardens Washington
Twp* Wharton

Passaic County

Bloomingdale*
Pompton Lakes
Ringwood*
Wanaque West
Milford*

Somerset County

Bernards
Bernardsville* Far
Hills* Peapack-
Gladstone

Sussex County

Andover Boro
Andover Twp
Byram*
Franklin
Green
Hamburg
Hardyston
Hopatcong
Lafayette
Ogdensburg
Sparta
Stanhope*
Vernon*

Warren County

Allamuchy
Alpha
Belvidere
Franklin
Frelinghuysen
Greenwich*
Hackettstown
Harmony
Hope
Independence
Liberty*
Lopatcong*
Mansfield
Oxford
Phillipsburg
Pohatcong*
Washington Boro
Washington Twp
White

Non-Governmental Organizations

In addition to government agencies, there are a number of non-governmental organizations who have gathered information relative to the Highlands, in particular watershed associations, which are not represented in this report. For example, the Wildlife Conservation Society Metro North held roundtables with New Jersey builders in the Highlands Region to discuss innovative ways of applying current land use planning tools to the implementation of ecological protection. The Environmental Defense Fund is also compiling GIS based information on Highlands municipalities, including zoning for each municipality from which they can illustrate build-out scenarios. The latest project underway is the *H2O (Highlands to Ocean) Project,* a new GIS based project underway through the Highlands Coalition and the Regional Plan Association.

Regional Plan Association (RPA)

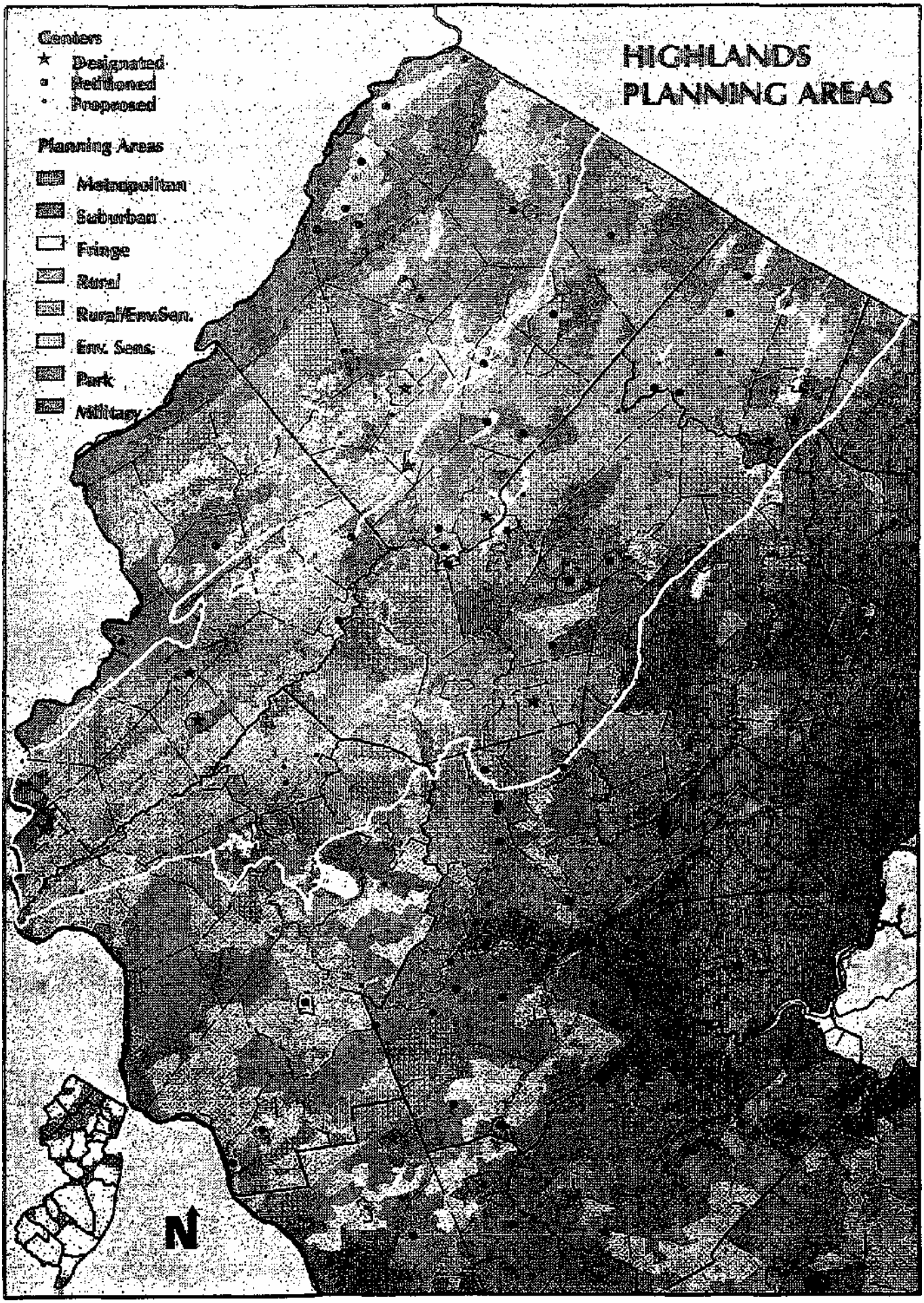
Founded in 1922, the Regional Plan Association is the nation's oldest independent regional planning organization. It covers the 31 county New York, New Jersey and Connecticut metropolitan area. RPA's First Plan in 1929 provided the blueprint for transportation and open space networks that we find in place today. Like the First Plan, the second plan released in 1968 and the third plan published in 1996 also focused on transportation and open space. The third plan, *A Region at Risk,* calls for building a "Metropolitan Greensward" surrounding this metropolitan area, establishing eleven regional reserves, including the Appalachian Highlands. The Plan also identifies 'The Treasures of the Highlands" listing the top dozen critical sites out of about 75 originally identified through a survey of Highlands Coalition members and public officials: Delaware River Sites, Morris Canal, Musconetcong River and Ridges, Pequest Valley, Parny Highlands West - Beaver Brook, Farny Highlands East, Pyramid Mountain, Hamburg Mountain, Pequannock Watershed, Wyanokie Highlands, Ramapo Mountains, Sterling Forest and Schunemunk Mountain.

Association ofNJ Environmental Commissions (ANJEC)

As part of an open space education initiative in the Highlands using GIS as a tool, ANJEC had created a GIS database of 1990 census data for each of the Highlands municipalities, including such information as population, employment, housing, income, and commutation patterns. This system is now being converted from MapInfo to ArcView.

Appalachian Mountain Club (AMC)

Using GIS, the Appalachian Mountain Club reported that it is currently investigating areas of outstanding ecological and recreational resource value in the Mid-Atlantic Region in order to identify priority sites for conservation activity. The first phase of the project, now complete, identified these regions over a large geographic ara, which includes the Highlands. The second phase will take a more in-depth look at some of the regions identified in the first phase, including the Highlands. Supplementary data layer will also be created for information not readily available in GIS format, such as maps of hiking trails and canoeable rivers. The final product will e a series of printed maps showing the fine-scale areas of "outstanding resource value", and the data layers used to produce the results.



SOURCE: Wflw Jarsey **Office of** StatB Planning, 9-99.

APPENDIX

March 15,1999

Mr. Herbert Simmens
Executive Director
New Jersey State Planning Commission
3 West State Street
P.O. Box 204
Trenton, New Jersey 08625

Re: Designation of the Highlands Region as an "Area of Critical State Concern*

Dear Mr. Simmens:

The Preliminary Plan currently under consideration by the State Planning Commission calls for the consideration of additional important areas within New Jersey for designation as "Areas of Critical State Concern" (page 207). Among the areas identified for such designation is the Highlands Region of Northwestern New Jersey. The Preliminary Plan states " the current State Plan recommends that [this] and possibly other areas be examined more closely and that policies for inclusion in the State Plan be developed where appropriate." The Highlands Coalition thanks the State Planning Commission for this invitation for meaningful public participation. On behalf of the New Jersey Steering Committee of the Highlands Coalition, I am submitting the following petition for designation of the Highlands region as an "Area of Critical State Concern". For the purposes of this petition, we are recommending that the Highland's region be defined according to the delineation utilized by the United States Forest Service in its. *New York - New Jersey Highlands Regional Study* (1993), inclusive of the counties and municipalities identified in the attached list

Many members of the State Planning Commission are well acquainted with the Highlands region and the unique and irreplaceable resources found there, as well as the many threats and pressures on the area. For your information, I am attaching the executive summary of the *New York- New Jersey Highlands Regional Study.* This summary provides an excellent overview of the national significance of the Highlands region's landscape and natural resources,

and the issues threatening the region. I am also including the following sections of the study: *Identification ai^i Assessment* and *Consequences of Change.* The entire study, as well another background document *"Treasures at Risk "* by the New Jersey Conservation Foundation have been provided to your staff. The sections I am attaching to this petition should effectively frame out the resources and issues for the Commission's consideration.

The importance of the Highlands region lies in the role it plays in providing drinking water to over 3.8 million people in New Jersey and New York, in providing wildlife habitat which is critical on a hemispheric scale, and the quality of its historic and recreational resources, providing often near wilderness experiences within two hours drive of 20 million people - values which are recognized within the State Plan. Yet, like much of the rest of New Jersey, these irreplaceable resources are disappearing beneath expanding sprawl development and a land use regime that is uncoordinated and lacks a regional perspective at the local level, problems which are aggravated by contradictory actions on the state level. Most tragically, despite the recognition of the national significance of the Highlands region's landscape by the Forest Service's study, neither the state nor the federal government have assumed the leadership role necessary to protect what is at stake. It is our hope that the State Planning Commission will accept this petition, and provide the direction and vision necessary to preserve this area, properly manage the land uses within it and set a course for effective action.

Many of the challenges facing protection of the Highlands Region's resources can be met through effective implementation of current policies within the State Plan. However, active leadership and initiative is desperately needed The State Plan's policies do not generally recommend responsibility for implementation, but the Highlands Coalition urges the State of New Jersey to take on a more active role, while recognizing the need for active support and participation fay the counties, municipalities and private sector. There are several examples of creative partnerships in the region already, although none are inclusive of the entire Highlands region.

With these concerns and issues in mind, the Highlands Coalition proposes mat the following policies be incorporated into the State Plan within the section designating the Highlands as an Area of Critical State Concern, supplementing the current statewide policies within the Preliminary Plan, including but not limited to those regarding *Water Resources, Water Supply Management, Flood Control, Open Lands and Natural Systems, and Agriculture.*

Policy 1: Intergovernmental Coordination

The State of New Jersey should initiate efforts to establish a comprehensive, detailed, intergovernmental management program to identity and address the existing and prospective conditions and problems of the Highlands Region, and to secure the protection of water quality and supplies, natural resources and open space, the unique landscape and community character and to promote sustainable economic development;

Policy 2: Development Capacity Analysis

The State of New Jersey should undertake a regional development capacity analysis to determine the levels and locations of growth that can be sustained within the Highlands region while maintaining the functional integrity of the regional ecosystem, water supplies and local community character. This analysis should be used to supplement the Resource Planning and Management Structure on a regional basis by identifying areas most suited for increased growth, preservation, agricultural production or low growth within the Highlands. The State of New Jersey should play a leadership role in incorporating the results of the analyses into State and local planning and regulatory processes.

Policy 3: Sustainable Use of Water Resources

a. The Department of Environmental Protection should establish water use policies and regulatory limits and mechanisms that insure that projected water demands do not exceed safe yields, impair ecological functions of water-related systems or impair, degrade or destroy ground or surface water supplies. These planning and regulatory limits and mechanisms should be established in a manner recognizing the regional nature of the Highland's water resources, and be incorporated into State and local planning and regulatory processes.

b. Promote and support initiatives to implement Statewide policies regarding *Water Supply Management* within the Highlands Region, reflecting the unique values and characteristics of the region

Policy 4: Protection of Water Quality

Protect the quality of the groundwater, aquifer recharge areas, headwater streams, rivers, lakes and reservoirs of the Highlands region through the strict application of stringent anti-degradation policies and regulatory mechanisms. Review current designations to insure that appropriate designations are in place.

Policy 5: Review of Projects with Regional Impacts

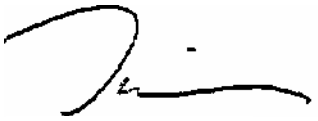
Develop and promote procedures and approaches for the review of developments that may have regional impacts, in or affecting the Highlands Region, including regional centers, highway corridor improvements, the expansion of public infrastructure, and public investment programs that insure that impacts to the region's resources are adequately anticipated and reviewed

Policy 6: Infrastructure

Coordinate local and state infrastructure investment policies and planning to insure that public, and especially state-financed and/or approved infrastructure investments are concentrated in Planning Areas 1 and 2 and designated centers.

We thank you in advance for your consideration of this petition. If you have any questions regarding our request, please do not hesitate ro call me at (908) 234-1225.

Sincerely,



Tim Dillingham,
Executive Director

cc: The Honorable Christine Todd Whitman
Robert C. Shinn, Department of Environmental Protection
Jane Kenney, Department of Community Affairs

Change in Civilian Employment By Industry

By County of Residence - 1980 To 1990

County of Residence	Business & Reo. Service		Personal Services		Entertainment & Recreation		Prof. & Related Services		Public Admin.		Change in County Civilian Employment	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Bergen	101	0.40%	1,860	21 .05%	1,042	21.28%	21,713	27.47%	-1 ,992	-14.68%	17,249	4.19%
Hunterdon	257	11.10%	188	24.64%	327	110.47%	6,006	78.45%	56	2.77%	17,675	44.22%
Morris	684	5.60%	1,184	30.62%	666	43.30%	14,210	36.92%	-1,251	-14.70%	33,624	17.06%
Passaic	3486	38.04%	679	14.91%	802	57.61%	11,128	33.88%	-403	-5.69%	26,615	13.74%
Somerset	899	13.61%	738	41.65%	636	95.21%	13,047	64.60%	-80	-2.30%	34,145	34.09%
Sussex	1,091	46.41%	-207	-14.09%	378	70.39%	4,532	46.29%	-25	-0.83%	16,067	31.84%
Warren	909	75.06%	163	23.49%	226	136.14%	2,898	46.36%	516	28.09%	8,564	23.61%
State Total	29,624	17.35%	27.072	34.71%	31,211	92.02%	253,019	39.90%	3,692	2.13%	592,332	18.53%

Source: 1990 Census Transportation' Planning Package

Change in Civilian Employment By Industry

By County of Residence - 1980 To 1990

County of Residence	Aqri., Forestry Fishing		Mining		Construction		Manufacturing		Trans.. Public Utilities		Wholesale Trade		Retail Trade		Financ e , Real Estate	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Bergen	1057	45.70%	-71	-23.43%	5,744	33.58%	-23,108	-24.20%	-326	-0.94%	556	1 .80%	-1 ,335	-1 .96%	12,008	38.66%
Hunterdon	247	19.39%	36	90.00%	1,809	71.45%	930	9.34%	721	19.91%	1,671	105.09%	3,101	57.47%	2,326	92.82%
Morris	1398	92.64%	716	464.94%	4,164	43.36%	-9,941	-19.77%	6,617	43.21%	2,908	30.75%	4,559	16.33%	7,710	42.13%
Passaic	1125	151.82%	110	122.22%	4,421	54.16%	-11,765	-17.61%	2,401	17.68%	4,006	40.04%	5,619	19.43%	5,006	48.27%
Somerset	562	57.64%	39	21.43%	2,275	48.11%	-4,363	-15.04%	5,092	59.02%	3,716	73.08%	4,388	35.66%	7,196	110.20%
Sussex	407	52.79%	-127	-31.67%	2,185	69.52%	-667	-5.74%	1,806	42.98%	1,315	66.51%	3,182	43.13%	2,197	57.56%
Warren	275	30.73%	58	56.31%	1,666	87.45%	-3,379	-26.52%	1,030	37.28%	342	29.26%	2,298	46.06%	1,562	100.51%
State Total	15,646	66.09%	1,094	28.32%	76,767	51.49%	-154,838	-19.49%	60,255	22.72%	42,466	26.26%	93,055	19.32%	113,269	49.91%

Source: 1990 Census Transportation Planning Package

Highlands Population Trends

	Inside Highlands				Outside Highlands				Totals			
County	1990	1998	Change	%	1990	1998	Change	%	1990	1998	Change	%
Atlantic					224,327	238,047	13,720	6.1%	224,327	238,047	13,720	6.1%
Bergen	29,902	34,111	4,209	14.1%	795,478	824,418	28,940	3.6%	825,380	858,529	33,149	4.0%
Burlington					395,066	420,323	25,257	6.4%	395,066	420,323	25,257	6.4%
Camden					502,824	505,204	2,380	0.5%	502,824	505,204	2,380	0.5%
Cape May					95,089	98,069	2,980	3.1%	95,089	98,069	2,980	3.1%
Cumberland					138,053	140,341	2,288	1.7%	138,053	140,341	2,288	1.7%
Essex					777,964	750,273	-27,691	-3.6%	777,964	750,273	-27,691	-3.6%
Gloucester					230,082	247,897	17,815	7.7%	230,082	247,897	17,815	7.7%
Hudson					553,099	557,159	4,060	0.7%	553,099	557,159	4,060	0.7%
Hunterdon	51,349	57,947	6,598	12.8%	56,453	64,481	8,028	14.2%	107,802	122,428	14,626	13.6%
Mercer					325,824	331,629	5,805	1.8%	325,824	331,629	5,805	1.8%
Middlesex					671,811	716,176	44,365	6.6%	671,811	716,176	44,365	6.6%
Monmouth					553,093	603,434	50,341	9.1%	553,093	603,434	50,341	9.1%
Morris	350,892	351,561	669	0.2%	62,643	58,333	-4,310	-6.9%	413,535	409,894	-3,641	-0.9%
Ocean					433,203	489,819	56,616	13.1%	433,203	489,819	56,616	13.1%
Passaic	65,833	71,528	5,695	8.7%	387,469	414,209	26,740	6.9%	453,302	485,737	32,435	7.2%
Salem					65,294	64,912	-382	-0.6%	65,294	64,912	-382	-0.6%
Somerset	26,564	32,333	5,769	21.7%	213,681	250,567	36,886	17.3%	240,245	282,900	42,655	17.8%
Sussex	89,684	98,540	8,856	9.9%	41,259	44,490	3,231	7.8%	130,943	143,030	12,087	9.2%
Union					493,819	500,608	6,789	1.4%	493,819	500,608	6,789	1.4%
Warren	79,809	85,760	5,951	7.5%	11,798	12,840	1,042	8.8%	91,607	98,600	6,993	7.6%
									-	-	0	
NEW JERSEY	694,033	731,780	37,747	5.4%	7,028,329	7,333,229	304,900	4.3%	7,722,362	8,065,009	342,647	4.4%

Source: US Census 1999

New Jersey Farmland Preservation Program

SUMMARY OF SADC OWNED EASEMENTS

imple - Purchased in fee simple title and resold with agricultural deed restrictions for farmland preservation purposes.

Original Owner	Municipality	Acres (Net)	Net Easement Cost	Net State Grants (Esmnt. Only)	Average Per Acre Esmnt. Cost	State Cost Share % Esmnt. Only		Date of Easement Purchase	Bond Fund
DC/Applegate	Chesterfield	167.979	446,877.01	446,877.01	2,660	100.00%	FS	10/05/98	1995
DC/Smylie-Gottlieb	North Hanover	77.5600	180,027.70	180,027.70	2,321	100.00%	FS	01/20/98	1992
2	2	245.5380	626,904.71	626,904.71	2,553	100.00%			
DC/Uhland	Hopewell	373.300	416,196.72	416,196.72	1,115	100.00%	FS	12/23/97	1992
DC/Vellaggio	Vineland City	58.910	175,924.92	175,924.92	2,986	100.00%	FS	11/29/90	1981
2	2	432.2100	592,121.64	592,121.64	1,370	100.00%			
DC/Van Marter	East Anwell	147.986	663,748.44	663,748.44	4,485	100.00%	FS	10/31/96	1992
DC/Dobozynski	Readington	233.199	1,536,860.50	1,426,660.50	6,599	92.72%	FS	04/07/95	1989
DC/Kanach	Readington	218.6900	2,404,397.13	2,404,397.13	10,995	100.00%	FS	12/16/98	1992
3	2	599.8750	4,607,006.07	4,495,006.07	7,680	97.57%			
DC/Siciliano	East Windsor	73.395	674,700.00	674,700.00	9,193	100.00%	FS	08/05/99	1995
DC/Mill Road	Hopewell	92.2400	642,484.60	642,484.60	6,965	100.00%	FS	03/09/94	1989
2	2	165.6350	1,317,184.60	1,317,184.60	7,952	100.00%			
DC/Brandenburg	Plumsted	125.3000	321,174.70	101,899.70	2,563	31.73%	FS	11/20/98	1995
1	1	125.3000	321,174.70	101,899.70	2,563	31.73%			
DC/Flaum	Quinton	399.25	452,372.55	452,372.55	1,133	100.00%	FS	01/24/94	1989
DC/DancerSherman	Mannington	228.05	296,531.70	296,531.70	1,300	100.00%	FS	08/05/96	1992
DC/TPL-Harris	Pilesgrove	465.34	1,228,816.42	1,228,816.42	2,641	100.00%	FS	11/28/90	1981
3	3	1,092.6400	1,977,720.67	1,977,720.67	1,810	100.00%			
DC/Kanach	Branchburg	107.456					FS	12/16/96	1992
	1	107.456							
DC/Blazing Star	Pohatcong	560.9580	2,459,851.17	1,120,815.17	4,385	45.56%	FS	01/23/98	1995
1	1	560.9580	2,459,851.17	1,120,815.17	4,385	45.56%			
14	13	3,330	11,901,964	10,231,653	3,575	85.97%			

Purchase

18.69 acres in Readington Township, Hunterdon County and 107.456 acres in Branchburg Township, Somerset County

unicipality

: New Jersey State Agriculture Development Committee

As of September 8,1

New Jersey Farmland Preservation Program
SUMMARY of EASEMENTS PURCHASED and PENDING

	Participating Counties	Permanently Preserved Farms		Permanently Preserved Acres		Fee Simple (SADC) Pending		1998 Round* Pending		1997 Round** Pending		1998 Round*** Pending		1999 Round Pending		Total Farms	Total Acres
		County	SADC	County	SADC	Farms	Acres	Farms	Acres	Farms	Acres	Farms	Acres	Farms	Acres		
	Atlantic	1		180								1	104			2	284
	Burlington	62	2	10,408	246									7	641	71	11,295
	Camden																
	Cape May	16		1,464								4	550	1	6	21	2,020
	Cumberland	26	2	4,459	432							4	330	9	1,646	40	6,869
	Gloucester	16		2,042										7	1,238	23	3,280
#	Hunterdon	39	6	5,286	845							6	773	10	1,270	61	8,174
	Mercer	24	2	2,444	166			1	92			5	418	6	436	38	3,557
	Middlesex	15		2,157						2	216	2	123	1	144	20	2,640
	Monmouth	38		5,781						2	181	8	876	5	493	53	7,331
#	Morris	22		2,246		1	185					3	118	3	168	29	2,707
	Ocean	12	1	1,652	125							1	66	2	116	16	1,959
	Salem	27	3	5,598	1,093							6	1,425	10	1,893	46	10,009
#	Somerset	20		2,135	107							3	277	8	775	31	3,294
#	Sussex	13		2,346						1	252	6	978	7	1,572	27	5,048
#	Warren	22	1	3,179	561							7	977	7	734	37	6,451
	Current Totals	352	17	51,385	3,575	1	185	1	92	5	649	56	6,916	83	11,126	517	74,133
	Funded Totals	369		54,960				42	6,311	56	7,357	69	8,752	85	11,331		
	Funding Amount							$21,000,000		$20,000,000		$24,500,000		$36,000,000			
	Initial Totals							69	13,360	83	11,118	86	11,362	100	12,795		

** Fee Simple (SADC) Pending includes farms with Agreements to Purchase that are in process of being purchased*

*** Final CADB & SADC approvals*

**** Pending final CADB and SADC approvals*

County Permanently Preserved includes 3 donated easements; 105 acres in Hunterdon County, 588 acres in Mercer County and 236 acres in Middlesex County

SADC Permanently Preserved includes 3 donated easements; 245 acres in Hunterdon County

326 Acre SADC Permanently Preserved farm is located in Hunterdon (219 acres) and Somerset (107 acres) Counties

1998 Round Pending - Includes 88 acre farm in Sussex County and 233 acre farm in Warren County approved as emergency easement purchases

1999 Round Pending - Final CADB and SADC approvals completed on June 24, 1999

Highlands Counties

New Jersey Farmland Preservation Program

SUMMARY OF SADC OWNED EASEMENTS

Donations of Easements to the State Agriculture Development Committee

County	Original Owner	Municipality	Acres (Net)	Net Easement Cost	Net Step Grants (Esmt's only)	Average Per Acre Easmt. Cost	State Cost/Acre Esmt's Only		Date of Donation		Fiscal Year Funded
Hunterdon	SADC/Gardner	East Amwell	56.859					Don	12/5/97		98
Hunterdon	SADC/Rosenborg	E.Amwell/Delav	47.040					Don	6/4/97		97
Hunterdon	SADC/Panacek	Franklin	141.700					Don	12/28/89		90
Hunterdon	3	3	245.4090								
State Total	3	3	245								

Don - Donation of easement

Note: No Highlands Municipality

Source: New Jersey **Slate Agriculture** Development Commttlee

As of September 8,1999

New Jersey Farmland Preservation Program

SUMMARY OF COUNTY OWNED EASEMENTS

Original Owner	Municipality	Acres (Net)	Total Easement Cost	Total State Grants Easement Only	Average Per Acre Total Easement Cost	State Cost Share Easement Only		Date of Purchase	Futu Bo Ori Gar Fed
Asbury Farms	Bethlehem	123.459	414,762.06	297,474.05	3,360	71.72%		08/20/97	19
Asbury Farms	Bethlehem	04.686	265,926.92	192,590.55	3,140	72.42%		09/24/98	19
Beatty, B. & S.	Bethlehem	145.706	429,043.23	314,776.16	2,945	73.37%		03/22/99	19
Huff, E. & L.	Bethlehem	119.194	397,339.67	285,607.80	3,334	71.88%		09/24/98	19
Knigge, R. & C.	Bethlehem	144.160	401,986.95	295,662.07	2,780	73.55%		12/31/98	19
Delaney, J. & M.	Bethlehem/Union	114.325	170,385.00	130,628.50	1,490	76.67%		06/25/97	19
Bodine, W. & P.	Delaware	208.1580	897535.74	547744.08	4,312	61.03%	12	02/26/96	19
Fisher, C. & R.	Delaware	73.0490	153,402.90	76,701.45	2,100	50.00%		12/22/86	19
Fisher, H. & H.	Delaware	92.2140	193,649.40	96,824.70	2,100	50.00%		12/22/86	19
Hilton, E. & E.	Delaware	70.0570	269,813.70	189,561.42	3,851	70.26%		06/25/97	19
Michalenko, H. & B.	Delaware	135.5510	311,767.30	155,883.65	2,300	50.00%		04/15/88	19
NJCF	Delaware	83.8075	175,995.74	87,997.88	2,100	50.00%		12/22/86	19
Rading, B. & C.	Delaware	207.8450	631,848.80	473,886.60	3,040	75.00%		02/15/94	19
Paulik, George Jr.	Delaware/Kingwood	92.3200	289,102.80	212,870.05	3,132	73.63%	23	01/13/97	19
du Fosse	East Amwell	130.9830	602,521.80	358,893.42	4,600	59.57%		04/12/95	19
Gulick, R. & E.	East Amwell	215.4230	1,016,370.63	609,822.38	4,718	60.00%		09/22/93	19
Hill, W. & P.	East Amwell	131.4770	1,294,770.00	971,077.50	9,848	75.00%		06/23/89	19
Kinderman	East Amwell	57.7290	165,970.88	-	2,875	0.00%		01/05/90	19
Manners, E.	East Amwell	123.1860	1,426,965.15	1,070,223.86	11,584	75.00%		06/23/89	19
Thompson (N)	East Amwell	123.5880	677,352.41	440,279.07	5,481	65.00%		11/27/91	19
Thompson (S)	East Amwell	163.6450	834,790.09	542,613.55	5,101	65.00%		11/01/91	19
Tolten, R. & E.	East Amwell	136.7200	1,347,200.00	925,906.64	9,854	68.73%		10/19/89	1
Weeden, M.	East Amwell	78.8800	279,314.08	151,449.60	3,541	54.22%	10	08/15/95	1
Blew, T. & S.	Franklin	159.5000	143,505.00	71,752.50	900	50.00%		12/19/85	1
Dilts, G. & P.	Franklin	200.1900	1,941,900.00	1,456,425.00	9,700	75.00%		05/22/89	1
Knispel	Franklin	149.0520	1,490,520.00	1,117,890.00	10,000	75.00%		06/06/89	1
Mathews, H. & R.	Franklin	119.6460	402,680.07	241,608.04	3,366	60.00%		09/22/93	1
Panacek, H. & P.	Franklin	256.4280	2,484,280.00	1,863,210.00	9,688	75.00%		05/22/89	1
Peterson, E, et al	Franklin	153.2460	740,484.67	436,607.92	4,832	58.96%		02/28/92	1
Gordeuk, J.	Kingwood	66.6040	231,725.75	-	3,479	0.00%	4	09/23/91	1
Gordeuk, M.	Kingwood	330.2740	1,106,702.40	-	3,351	0.00%	5	09/23/91	1

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Source: New/ Jersey State Agriculture Development Committee

As of August

New Jersey Farmland Preservation Program

SUMMARY OF COUNTY OWNED EASEMENTS

County	Original Owner	Municipality	Acres (Net)	Total Easement Cost	Total State Grant Easement Only	Average Per Acre Total Easement Cost	State Cost Share Easement Only		Date Purchase	Funding Bond Yr Option Glidden Federal	Fiscal Year Closing
Hunterdon	Bauer/Cole	Readington	126.2630	724,968.65	434,981.19	5,742	60.00%		03/11/94	1989	94
Hunterdon	Burjan, J.	Readington	105.3480	779,575.20	484,600.60	7,400	62.16%		06/16/95	1992	95
Hunterdon	Readington Twp/Mason	Readington	242.1090	1,648,278.07	1,042,037.14	6,808	63.22%		10/15/98	1992	99
Hunterdon	Rdngtn Twp/Schaeffer C&C	Readington	93.6460	667,506.69	433,880.65	7,128	65.00%		04/14/99	1995	99
Hunterdon	Rdngtn Twp/Schaeffer C&V	Readington	127.7260	865,329.08	562,463.90	6,775	65.00%		04/30/99	1995	99
Hunterdon	Schley Farm	Readington	105.0800					31	12/30/98		99
Hunterdon	Wallenjack, P.	Readington	92.2530	720,800.00	360,400.00	7,813	50.00%		08/25/87	1981	88
# Hunterdon	Bowers, J. & D.	Union	102.1710	408,684.00	286,078.80	4,000	70.00%		08/28/96	1989	97
Hunterdon	39	7	5,285.6984	27,004,758.65	17,220,431.52	5,109	63.77%				

Highlands Municipality

New Jersey Farmland Preservation Program

SUMMARY OF COUNTY OWNED EASEMENTS

	County	Original Owner	Municipality	Acres (Net)	Total Easement Cost	Total Grants for Easement Only	Average Per Acre Easement Cost	State Cost Share Easement Only		Date of Purchase	Funding Source/Program (Federal)	Fiscal Year Closed
#	Morris	Andrews, S. & H.	Washington	79.2000	1,386,316.80	693,158.40	17,504	50.00%		12/21/88	1981	89
	Morris	Borgenicht	Washington	312.3750	3,118,660.00	1,871,196.00	9,984	60.00%		10/07/96	1992	97
	Morris	Cupo	Washington	14.0000	168,000.00	84,000.00	12,000	50.00%		12/29/87	1981	88
	Morris	Drew University	Washington	111.1400	1,946,728.24	1,557,382.59	17,516	80.00%		01/17/89	1981	89
	Morris	Farrand, D. & J.	Washington	25.7990	420,852.00	175,008.08	16,313	41.60%		07/11/89	1981	90
	Morris	Farrand, H. & D. & J.	Washington	59.0360	1,121,684.00	471,107.28	19,000	42.00%		06/23/89	1981	89
	Morris	Farrand, H. & H.	Washington	77.4680	1,466,572.00	618,194.64	18,931	42.15%		07/11/89	1981	90
	Morris	Farrand, H. & J.	Washington	56.8460	475,232.56	287,072.30	8,360	60.41%		07/17/96	1995	99
	Morris	Jenkinson, H.	Washington	76.9620	1,311,835.00	707,101.00	17,045	60.00%		04/10/89	1981	89
	Morris	Kennedy, L.	Washington	114.0800	861,739.26	560,130.52	7,554	65.00%		05/29/92	1989	92
	Morris	Liebenzell Mission	Washington	100.0740	845,725.37	512,929.29	8,451	60.65%		08/24/95	1992	96
	Morris	Maier Brothers Inc.	Washington	97.6880	1,221,097.50	610,518.75	12,500	50.00%		04/15/89	1981	89
	Morris	Maier, G., D., & K.	Washington	135.6880	821,169.78	533,769.45	6,052	65.00%		12/30/97	1992	98
	Morris	Melroy	Washington	86.4000	518,400.00	336,960.00	6,000	65.00%		12/30/97	1992	98
	Morris	Palmer Char. Trust	Washington	46.1770	456,306.73	274,984.04	9,925	60.00%		06/30/95	1992	95
	Morris	Quinlan, A. & M.	Washington	43.9200	52,704.00	40,639.96	1,200	77.11%		09/03/98	1995	99
	Morris	Radics, S. & McKeon, D.A.	Washington	112.8984	582,798.52	382,838.47				08/13/99	1992	00
	Morris	Schirmacher, P. & G.	Washington	77.5200	628,596.00	377,157.60	8,109	60.00%		09/10/92	1989	93
	Morris	Smith, K. & E.	Washington	65.5840	369,504.00	166,276.80	5,634	45.00%		09/22/93	1989	94
	Morris	Tode Pond Part.	Washington	53.1350	506,090.00	379,567.88	9,525	75.00%		05/29/92	1989	92
	Morris	Turnquist, E.	Washington	114.4990	646,308.65	387,785.20	5,645	60.00%		02/26/93	1989	93
	Morris	Washington Twp	Washington	305.3070	4,045,729.50	2,420,107.20	10,500	59.82%		12/03/97	1992	98
	Morris	22	1	2,245.7914	22,953,997.91	13,527,965.45	10,221	58.94%				

Highlands Municipality

New Jersey Farmland Preservation Program

SUMMARY OF COUNTY OWNED EASEMENTS

County	Original Owner	Municipality	Acres (Net)	Total Easement Cost	Total State Grant Easement Only	Average Per Acre (Total Easement Cost)	State Cost Share Easement Only		Date Final Purchase	Funding Bond Year Open Space Garden Federal	Fiscal Year of Closing
Somerset	Doyle, S. & G.	Bedminster	96.556	919,730.00	689,797.50	9,525	75.00%		12/19/97	1992	98
Somerset	Baron, S & N	Branchburg	85.9000	601,160.00	300,580.00	6,998	50.00%		08/12/87	1981	88
Somerset	Foxcroft	Branchburg	249.4160	2,967,272.50	1,780,363.50	11,897	60.00%		03/31/92	1989	92
Somerset	Totten, J & B	Branchburg	29.1877	300,000.00	233,501.00	10,278	77.83%		12/05/89	1981	90
Somerset	Negri Estate	Franklin	100.0000	959,740.00	623,831.00	9,597	65.00%		02/13/97	1992	97
Somerset	Nemeth, E.	Franklin	75.6100	476,217.00	295,904.70	6,298	62.14%		12/18/91	1989	92
Somerset	Nieman, A.	Franklin	83.9390	671,512.00	402,907.20	8,000	60.00%		12/22/93	1989	94
Somerset	Peacos, M & A	Franklin	66.6490	418,061.70	271,740.11	6,273	65.00%		03/10/97	1992	97
Somerset	Conard, S. H. & V.	Hillsborough	136.5260	1,528,856.00	1,223,084.80	11,198	80.00%		10/09/98	1995	99
Somerset	Everett, J & D	Hillsborough	93.3070	692,923.86	411,184.80	7,426	59.34%		01/11/94	1989	94
Somerset	Foxhill /Whitehall	Hillsborough	119.2900	583,924.55	347,740.00	4,895	59.55%		12/17/93	1989	94
Somerset	Maijes Associates	Hillsborough	103.8360	1,001,913.56	651,243.82	9,649	65.00%		12/19/97	1992	98
Somerset	Osterman, K & A	Hillsborough	134.7550	806,823.12	484,093.87	5,987	60.00%		01/11/94	1989	94
Somerset	Som CADB/Kanach	Hillsborough	114.8000	945,450.00	575,865.00	8,236	60.91%		07/14/98	1995	99
Somerset	Taylor, D S	Hillsborough	37.8650	300,072.00	210,050.40	7,925	70.00%		07/14/98	1992	99
Somerset	Gallup Farm	Montgomery	340.5391	2,441,702.59	1,465,021.56	7,170	60.00%		06/10/94	1989	94
Somerset	Medina, M.	Montgomery	128.7110	1,029,472.00	669,156.80	7,998	65.00%		04/03/98	1992	98
Somerset	Staats, D.	Montgomery	74.7696	598,156.80	478,525.44	8,000	80.00%		03/18/97	1992	97
Somerset	Summerskill	Montgomery	29.6980	589,380.00	282,902.40	19,846	48.00%		11/16/89	1981	90
Somerset	Tucker, B. & S.	Montgomery	33.6290	235,403.00	153,011.95	7,000	65.00%		04/14/98	1992	98
Somerset	20	5	2,134.9834	18,067,770.68	11,550,507.25	8,463	63.93%				

Note: No Highlands Municipality

f>ui!rce: **New** Jersey **Stole Agriculture** Development **CommiUee**

As of August **20,1999**

New Jersey Farmland Preservation Program

SUMMARY OF COUNTY OWNED EASEMENTS

County	Original Owner	Municipality	Acres (Net)	Total Easement Cost	Total State Grants Easement Only	Average Per Acre Total Easement Cost	State Cost Share Easement Only		Date of Purchase	Funding Bond Yr Open Spc (Garden) Federal	Fiscal Year of Clsng
# Sussex	NJCF	Andover	46.7400	209,505.00	239,668.00	6,410	80.00%		06/21/91	1981	91
# Sussex	Kirby	Andover/Green	73.8751	436,391.40	349,113.12	5,907	80.00%		09/26/89	1981	90
# Sussex	Struble, E. & R.	Hardyston/Lafayette	106.6642	255,381.04	131,491.85	2,394	51.49%		10/07/98	1995	99
# Sussex	Martin & Mullhaupt	Vernon	69.2642	155,190.00	79,810.89	2,241	51.43%		06/23/98	1995	98
Sussex	Beemer Estate	Wantage	197.8670	593,601.00	435,307.40	3,000	73.33%		06/30/95	1992	95
Sussex	Compton, B. M.	Wantage	151.1435	430,456.69	316,434.03	2,848	73.51%		08/13/97	1989	98
Sussex	Cosh, E. & M.	Wantage	309.6989	774,247.25	572,942.97	2,500	74.00%		11/21/97	1992	98
Sussex	Cosh, M.	Wantage	258.8826	654,455.22	484,006.91	2,528	73.96%		06/25/97	1992	97
Sussex	Harden, H. W.	Wantage	238.0910	640,631.16	472,188.89	2,691	73.70%		10/28/96	1989	97
Sussex	Joseph, F. & S.	Wantage	246.6673	616,668.25	317,152.48	2,500	51.43%		06/23/98	1995	98
Sussex	Kuperus, H. & H.	Wantage	308.5030	925,507.80	678,705.72	3,000	73.33%		06/30/95	1989	95
Sussex	Postma, S. & R.	Wantage	88.9710	199,295.04	148,403.63	2,240	74.46%		10/28/96	1989	97
Sussex	Ricker Brothers	Wantage	250.1152	737,589.73	541,324.93	2,949	73.39%		08/13/97	1992	98
Sussex	13	6	2,346.4830	6,719,007.27	4,766,536.82	2,863	70.94%				

Highlands Municipality

New Jersey Farmland Preservation Program

SUMMARY OF COUNTY OWNED EASEMENTS

	County	Original Owner	Municipality	Acres (Net)	Total Easement Cost	Total State Grants Easement Only	Average Per Acre Total Easement Cost	State % Cost Share Easement Only		Date of Purchase	Funding Source(s) Open Space, Green Acres, Federal	Fiscal Year of Close
#	Warren	Gibbs Farm #1	Allamuchy	287.3730	1,330,698.18	1,070,958.54	4,650	80.00%		08/29/89	1981	90
	Warren	Gibbs Farm #2	Allamuchy	289.9638	1,101,340.32	881,072.26	3,798	80.00%		08/29/89	1981	90
	Warren	Gibbs, J. G.	Allamuchy	431.8500	1,433,493.72	1,146,794.98	3,319	80.00%		12/21/93	1981	94
	Warren	Sernanchik Estate	Allamuchy	10.7130	99,178.90	66,491.15	5,300	66.98%		06/03/97	1992	97
#	Warren	Fox, E. & M.	Franklin	98.1700	353,412.00	229,717.80	3,600	65.00%		09/09/93	1989	94
	Warren	Leyburn, R. & A.	Franklin	58.4300	315,522.00	189,313.20	5,400	60.00%		03/27/92	1989	92
	Warren	Oostdyk, J. & O.	Franklin	138.3160	525,600.80	370,686.88	3,800	70.53%		12/02/97	1989	98
	Warren	Steinhardt, L	Franklin	190.7800	661,464.00	429,951.60	3,467	65.00%		11/12/91	1989	92
	Warren	Trout, J. & J.	Franklin	159.4630	545,192.46	390,680.68	3,419	71.70%		10/27/97	1989	98
#	Warren	Schnetzer Farms	Franklin/Wash	113.4300	581,998.19	349,198.91	5,131	60.00%		01/14/92	1989	92
	Warren	Schnetzer, A. et al	Franklin/Wash	21.3900	97,944.81	54,810.63	4,579	55.96%		06/15/94	1989	94
	Warren	Schnetzer, M.	Franklin/Wash	126.5000	465,500.00	319,992.00	3,680	68.74%	6	05/17/95	1989	95
#	Warren	Moore, Chan	Frelinghuysen	71.5420	186,009.20	137,360.64	2,600	73.85%		06/17/98	1995	98
	Warren	Sisters of St Dominic	Frelinghuysen	139.6590	318,915.70	237,016.89	2,300	74.32%		06/17/98	1995	98
#	Warren	Warfflsko, L. & D.	Harmony	97.1560	158,622.72	126,898.37	1,633	80.00%		08/12/99	1992	00
#	Warren	Cummins, G & J	Independence	103.5810	482,130.70	330,310.82	4,655	68.51%		05/25/95	1989	95
	Warren	Joswik, M. & G.	Knowlton	166.8940	400,545.60	297,071.32	2,400	74.17%		06/17/98	1995	98
	Warren	Makarevich Estate	Knowlton	170.9490	538,469.35	391,473.21	3,150	72.70%		07/07/95	1989	96
	Warren	Milliheim Estate	Knowlton	161.4000	479,358.00	351,690.60	2,970	73.37%		05/17/95	1989	95
	Warren	Terpstra, O.	Knowlton	109.2900	338,799.00	246,995.40	3,100	72.90%		05/17/95	1989	95
#	Warren	Caputo, J.	Washington	146.8800	1,671,686.00	1,003,011.60	11,381	60.00%		11/20/91	1989	92
	Warren	Jelliffe, M.	Washington	78.4400	329,055.00	197,433.48	4,195	60.00%		10/05/93	1989	94
	Warren	22	6	3,179.1693	12,422,957.45	8,619,070.96	3,908	70.99%				
	State Total	352	71	51,385	226,587,971	147,048,509	4,410	64.90%				

Highlands Municipalities

Source: New Jersey State Agriculture Development Committee

As of August 20, 1999

Mew Jersey Farmland Preservation Program

SUMMARY OF **COUNTY OWNED EASEMENTS**

County	Original Owner	Municipality	# Acres (Net)	Total Easement Cost	Total State Grant for Easement Only	Average Per Acre Total Easement Cost	State Cost Share Easement Only		Date of Purchase	Funding Bond Yr. Open Space, Garden, Federal

FOOTNOTES

1. SADC grant was 80% of the certified value, but the County paid based on a higher value.
2. This value represents the principal plus $54,401.86 in interest as a result of installent payments over three years.
3. This farm was acquired in fee simple by the county and resold with deed restrictions. Costs shown are net.
4. Net to landowner. The county deducted about $1,400 for settlement costs from the payment.
5. Net to landowner. The county deducted $42,000 for RDSOs plus a little over $7,000 in settlement costs from the payment.
6. County paid 100% of the 3.1 acres located in Washington Twp. SADC grant was 70.5% of the balance.
7. County purchased the easement for $1,121/acre and discounted its SADC offer to $736 / acre. SADC grant was 80.0% of the offer.
8. County purchased the easement for $3,512/acre and discounted its SADC offer to $2,088 / acre. SADC grant was 73.5% of the offer.
9. County purchased the easement for $3,455/acre and discounted its SADC offer to $2,720 / acre. SADC grant was 73.7% of the offer.
10. County purchased the easement for $3,541/acre which exceeded the certified value of $2,600/ acre. SADC grant was 54.2% of the purchase price. The County grant was 9.6 % and the municipal support was 36.2 percent of the purchase price.
11. Actual purchase price does not include a landowner donation to compensate for a shortfall of county funds.
12. Actual purchase price does not include a landowner donation of $16,982.97.
13. County purchased the easement prior to appropriation of 95 round funds. SADC cost share to county once funds are appropriated.
14. SADC grant of $328,464.36 was funded from 89 ($5,658.26) and 92 ($322,806.10) bond funds.
15. Actual purchase price does not include a landowner donation of $17,774.10
16. Actual purchase price does not include a landowner donation of $10,196.66
17. Actual purchase price does not include a landowner donation of $15,936.75
18. Actual purchase price does not include a landowner donation of $11,105.88
19. Actual purchase price does not include a landowner donation of $13,587.34
20. Actual purchase price does not include a landowner donation of $8,886.88
21. Actual purchase price does not include a landowner donation of $6,483.55
22. Funds of $350,000 available due to maximum amount of grant established in appropriation bill, shortfall of $54,966.80 to be covered approp bill for 96 EP round e paid to county when approved.
23. Actual purchase price does not include a landowner contribution of $5,291.95
24. Donation of easement to Mercer County by Princeton University, Institute for Advanced Study
25. Total SADC grant $1,543,160.58, grant of $500,000 at closing, additional funding subject to final confirmation of sufficient funds
26. Actual purchase price does not include a landowner donation of $36,842.75
27. Actual purchase price does not include a landowner donation of $20,754.00
28. Donation of easement to Middlesex County by Walker-Gordon Laboratory Co.
29. Easement total 95.9465 acres; 94.1165 in East Windsor Twp, Mercer Cty and 1.83 acres in Millstone Twp, Monmouth Cty, Mercer Cty paid for easement
30. Actual purchase price does not include a landowner donation of $3,007.67
31. Donation of easement to Hunterdon County CADB by Schley Farm

Source: **New Jersey Stale** Agriculture **Development CommKtee**

As of August 20,1999

1994 NEW JERSEY OPEN SPACE AND OUTDOOR RECREATION PLAN

STATE OF NEW JERSEY

CHRISTINE TODD WHITMAN
GOVERNOR

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

ROBERT C. SHINN, JR.
COMMISSIONER

GREEN ACRES PROGRAM

ISSUE: HIGHLANDS AND SKYLANDS

There is a need to preserve and protect the natural, cultural, recreational and scenic resources of the Highlands and Skyfands and maintain sustainable land uses in these regions.

New Jersey is fortunate to have several areas of environmental significance within its borders. Two such areas were recently the subject of separate studies. The New York-New Jersey Highlands Regional Study was authorized by the Food, Agriculture, Conservation, and Trade Act of 1990. A planning group, coordinated by the United States Forest Service included federal, state, local and nonprofit organizations, developed conservation strategies for the region's resources and addressed key issues such as • urban sprawl, water resources, recreation and biodiversity. Both studies project increased population growth and loss of open space over the next 20 years, with 32,000 acres in the Highlands predicted to be converted to urban land uses.

Parts of seven counties and 82 municipalities make up the New Jersey portion of the Highlands study area. The surface water of Highlands streams and reservoirs supplies water to 3.7 million residents of 11 counties in northern and central New Jersey. The region contains approximately 75,000 acres of public open space. About 393,000 acres of open space lands are privately owned and are subject to the risk of being lost to urban uses. The Highlands serve as a greenbelt to the nation's most heavily populated metropolitan area.

This region of New Jersey continues to attract the attention of public and private preservation groups because of its outstanding concentration of natural and recreational resources. These resources include extensive tracts of unbroken upland hardwood forest, trout production streams, wetlands, a well developed and maintained system of hiking trails, reservoirs and watershed lands, scenic vistas, and combinations of high quality habitat which support a rich diversity of wildlife species.

In recognition of the significance of the Highlands, a Highlands Trust Advisory Board was created in 1993 by Executive Order of the Governor of New Jersey. The Board's mission is to identify important natural and historic areas and make recommendations for the conservation and preservation of these areas.

The Skylands Task Force was created in 1989 and was charged with creating a plan for linking and protecting the natural, historic and recreational resources of the Skylands region to enhance agricultural and tourism industries. The Skylands take in the length of the New Jersey/New York border from the Delaware River to the Hudson River. Route 80 forms the southern boundary of this region. The Skylands includes portions of Bergen, Morris, Passaic, Warren Counties and all of Sussex County. The goal of the plan is the creation of a national greenway linking the Delaware River with the Hudson River. The Skylands Creenway Task Force, which was comprised of various representatives of the open space and environmental community, completed a report in January 1992. Many of the resources found in the Skylands are similar in significance to the Highlands, which overlaps a substantial portion of the Skylands region.

The Forest Legacy Program will aid New Jersey in the protection of sensitive forest lands in the Highlands and Skylands. New Jersey has received over two million dollars from the Forest Legacy Program to date for forest protection. Economic pressure on forest owners from escalating land values and property taxes has led to the loss of forestlands and subdividing forests into smaller parcels.

New Jersey has responded to these regional open space planning initiatives by targeting several areas for acquisition and preservation by the state or by providing financial assistance to local governments and conservation organizations for land acquisition. The Green Trust grants and loans to local governments and nonprofits from the second appropriation of the 1989 Open Space Preservation Bond total over $12 million for land acquisition projects in these regions. Scheduled state land purchases total over $21 million that will

protect close to 10,000 acres. Similar funding levels have been made from the 1992 Green Acres, Clean Water, Farmland and Historic Preservation Bond. The Green Acres Program continues to work closely with local governments and organizations seeking to protect the landscapes of the Highlands and Skylands.

POLICY:

It shall be the policy of the State of New Jersey to protect critical natural, historic, and scenic resources of the Highlands and Skylands to promote balanced growth and development.

NJDEP- Division of Water Quality

The following table represents projects in the Highlands receiving USEPA grants under the Construction Grants Administration Program and loans under the New Jersey Environmental Infrastructure Financing Program. This is followed by a listing of the associated planning reports available within the Division. Attachment B is a listing of various water quality studies also available within the Division.

	CGAP Funding (Approval)	*NJEIFP* ***Fundine***
Mahwah	1978	
Oakland	1980	
Htinterdon		
Clinton Township		SFY96
Clinton Town	1977	
Morris		
Boonton Twp	RVRSA (*) Study (1976)	
Butler	PRBRSAC**) Study (1981)	
Chester Boro		SFY97
Denville	1976 & RVRSA Study (1976)	SFY89

* *Rockaway Valley Regional Sewerage Authority*
** *Pequannock River Basin Regional Sewerage Authority*
*** *Wanaque Valley Regional Sewerage Authority*

	CGA Funding (Approval)	***SRF Funding***
Morris (continued)		
Hanover	1975-1981	
Jefferson	1980	
Kinnelon	1976 & PRBRSA Study (1981)	
Mine Hill		SFY98
Montville	1977	SFY90,92 & 95
Morris Twp	Upper Passaic	SFY90&91
Morristown	1978	SFY89 SFY94
Mount Arlington		SFY94, 96 & 97
Mount Olive		
Mountain Lakes	1975	
Parsippany-Troy Hills	1976	
Pequannock	1980 & PRBRSA	SFY89,90$_T$91,95&00
Randolph	1976	
Rjverdale	PRBRSA	
Rockaway Twp	1980 &RVRSA (1976)	SFY88
Roxbury	1979	
Passaic		
Bloomingdale	1977 & PRBRSA	
Pompton Lakes	1980	
Ringwood	1981 & WVRSA (***) (1977)	
Wanaque West	1980 & WVRSA	
Milford	WVRSA & PRBRSA	SFY90
Somerset		
Bernards ville	1975	SFY91
Sussex		
Stanhope	1976	
Warren		
Allamuchy		SFY95 SFY92 SFY99
Hackettstown		SFY89, 91,92, 93 & 94
Lopatcong		
Phiilipsburg		SFY98
Washington Twp	1975	
Washington Boro		

The following reports are available in-house:

Morris County

1) Level II Environmental Review
Borough of Mount Arlington, March 1992

2) Level II Environmental Review
Township of Mount Olive
Morris County, New Jersey, March 1992

3) Level U Environmental Review
Musconetcong Sewerage Authority
Stanhope, New Jersey, March 1992

4) Phase II Study Report
Impact Analysis of a Wastewater Discharge on the
Water Quality of the Upper Musconetcong River
Submitted by IT Corporation and MSA, February 1993

5) Project Report for
Sanitary Sewer Extension
Phasel-A,2-Aand2B
Mine Hill Township
Morris County, New Jersey

6) Planning Documents and Project Report
For Den Brook Interceptor
Force Main and Pump Station
In support of Application to the N.J.W.F.T. Program
Randolph Township, Morris County, **New** Jersey

Warren County

1) Wastewater Treatment Facility
Project Report/Facilities Plan - April 1996
Borough of Washington

2) Project Report Sanitary Sewer
Rehabilitation/Extraneous Flow Reduction
January 1977
Borough of Washington

3) Sewer Feasibility Study
Sewer System
New Jersey Wastewater Treatment Trust
Phase I Report for NJDEP Meeting 6/20/97
Hopaicong, New Jersey

c: Dennis Hart, Director, Division of Water Quality

Bergen County

None

Hunterdon County

Clinton Township - Water quality study of the South Branch of the Rockaway Creek, a tributary to the Lamington River and thence to the North Branch Raritan River, May 1994.

Town of Clinton - Water quality study of the South Branch Raritan River from Route 78 to Bushkill Creek, 1993.

Lebanon - Water quality study of the Rockaway Creek, a tributary to the Lamington River and thence to the North Branch Saritan River, 1991.

Tewksburv - Water quality study of the North Branch of the Rockaway Creek a tributary to the Lamington River and thence to the North Branch Raritan River, 1992.

Morris County

Hanover - Whippany Watershed Study, ongoing.

Mendham Boro - Water quality Study of India Brook, a tributary to the North Branch Raritan River, 1990.

A TDS (total dissolved solids) study of India Brook, 1998.

Roxburv- Water quality study of the Lamington River, a tributary to the North Branch Raritan River, 1980.

Washington Township - Water quality study of the South Branch Raritan River from Electric Brook to the Middle Valley, 1995.

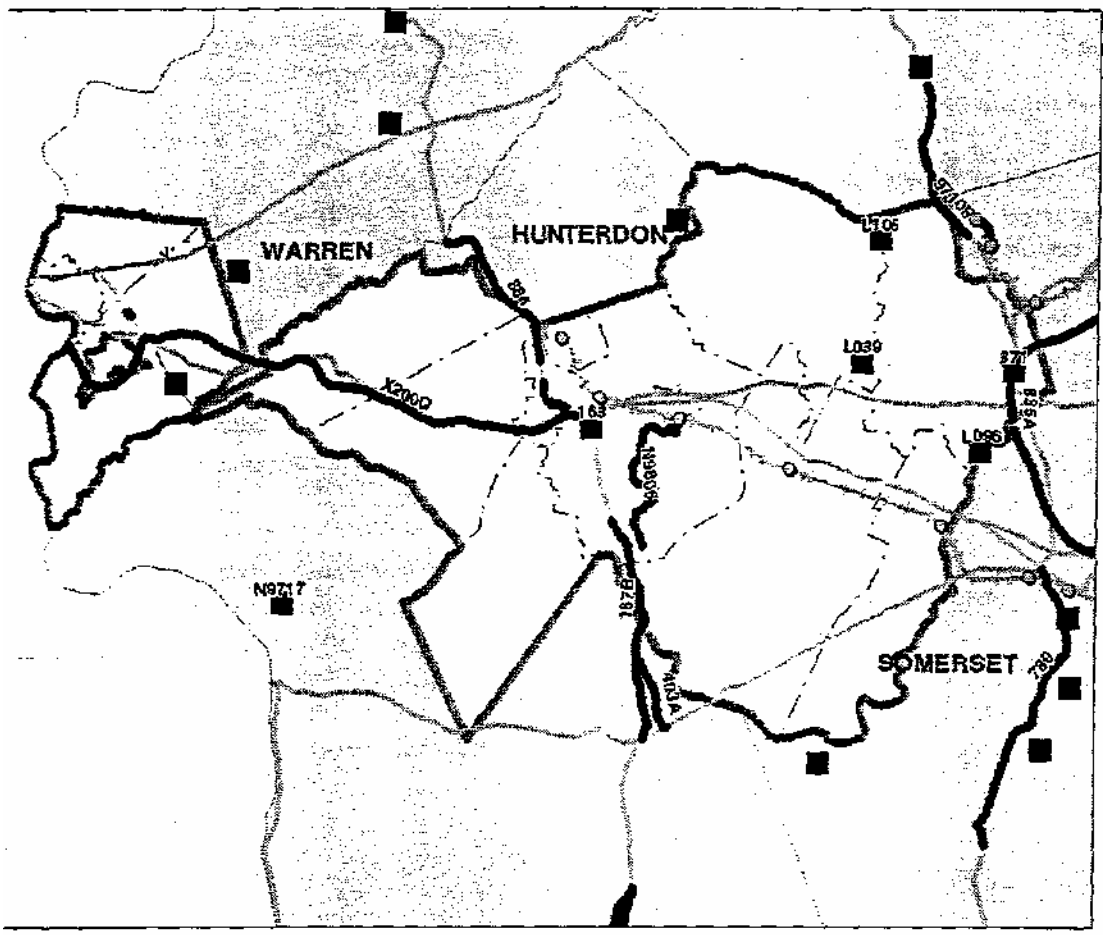
Warren **County**

Hackettstown - Water quality srudy of the Musconetcong River from Lake Hopatcong to the Delaware River, 1992.

Philiipsburg - Water quality study of Lopatcong Creek, a tributary to the Delaware River, 1998.

Washington Boro- Water Qualify study of the Pohatcong Creek, a tributary to the Delaware River, from the Washington Boro discharge to 9 miles downstream, 1994.

Corridor # 4
I-78
Hunterdon, Somerset, Warren



CORRIDOR 4 - 1-78 (HUNTERDON, SOMERSET, AND WARREN COUNTIES)

Description: This east-west corridor stretches from western Warren County at the Delaware River, eastward through Hunterdon into Somerset County. The area covered by the 1-78 can be seen in the Map for Corridor #4. It is approximately 264 square miles in area and with a resident population of 91,301 persons, its average population density is 346 persons per square mile. More than 76.361 persons are employed within this corridor at a density of 290 jobs per square mile. Among the major employers who are represented are: AT&T, Chubb. "K" Line America and Dunn & Bradstreet — to note but a few. Access to their corporate sites is complicated by the major differences in scale between the interstate and the local roads to which it connects.

The principal east-west highway in the corridor is Interstate 78, with Interstate 287, US Route 206. and NJ Route 31 (serving as north-south feeders) being the connecting highways in the system. Transit service is provided by rail on NJ Transit's Raritan Valley Line with bus service provided by a combination of NJ Transit and private carriers.

Travel in the corridor is shaped in part by the limited access design of Interstate 78. which is used for journey-to-work trips, interstate freight transport to-and-from Port Newark and the Elizabeth Marine Terminal as well as recreational trips to western New Jersey. Travel within this corridor includes long distance trips for cross-regional travelers, plus a wide variety of other trips varying in intensity across its rural, suburban and urban landscapes.

As might be expected in a Corridor with low average densities, considerable distances between activity centers and no dominant intra-regional commuting focus, transit usage is lower than in the rest of the region. Thus, in 1990 only 1.44 percent of residents used any form of transit to get to work. Similarly, less than 1 percent of workers at employment sites within the corridor arrived by transit. Contrastingly, over 82% of both resident and workers went to work in single occupancy vehicles.

Major truck traffic in the corridor is present along 1-78 and US 22. There is a need for additional rest areas along 1-78 and other connecting interstate highways. Congestion occurs during the peak hour on 1-78, US 22, and NJ 122 in Phillipsburg at the western end of the corridor.

Mobility Issues: Currently, 1-78, the central highway facility in this east-west corridor is not subject to major capacity constraints. However, as proposed and approved development comes on line around the 1-78 Interchanges there will be increasing pressure on local roadways to remove the exiting traffic sufficiently quickly to avoid delays for "through" traffic. It is anticipated that Truck traffic on US 202, which parallels this portion of 1-78, might become an increasing source of local concern now that 1-287 provides a new link to the northeastern United States. Finally, as proposed residential development conies on line in both Hunterdon and Warren Counties, there may be increased pressure to investigate other mobility solutions.

Corridor Infrastructure Investments:. Highway operational improvements at key intersec tions are under review for the western portion of the corridor (on Route 78 between interchange

3, the last exit in New Jersey, and the Delaware River), while operational improvements on the rail side will result from the construction of the Hunter Connection (a high-speed connecting rail link in Newark that will reduce travel delays on the Raritan Valley Line). Ongoing local bridge repair and replacement will also be required to maintain needed access to 1-78.

NEAR-TERM INVESTMENTS **- PROJECTS IN THE FY** 1998-2002 TIP **BY MAJOR INVESTMENT CATEGORY:** Lists projects in the corridor identified for implementation in FY 1998-2002 TIP, plus additional regional transportation investments identified for near term implementation. In addition to describing the project and its cost, this section identifies whether the project is cross-listed in another corridor (due to corridor overlap). Cost estimates refer to funds applied to the project in the near term and do not necessarily represent complete implementation costs.

Highway/Bridge ***Maintenance*** *and*

Preservation

Route	DBVUM	Description	Cost Estimate	Other Corridors
31	167C	Bridges over the south branch of the Raritan River and Conrail Railroad replacement	N/A	16
206	97105	North of Beneficial Drive to south of Pottersville Road; North of Pottersville Road to south of Chester Township corporate line, resurfacing	2.200	11 15
	L039	Lamington Road Bridge, replacement L073 Warren	2.250	1.960
		Glen/BIoomsbury Road Bridge, elimination L105 Black River Road	1.500	11 15
		Bridge over Herzog Brook, replacement		

System Management

Route	DBNVM	Description	Cost Estimate	Other Corridors
			2.396	11 15
287	371	Ramp relocation at Routes 202 & 206	S.600	
22	9136	Intersection improvements at Belvidere Road, County Route 519 TRANSIT T1I5	7.000	
Hunter Connection				3.6.12

Capacity Enhancements

Route	DBMJM	Description	Cost Estimate	Other Corridors
31	163	Stanton Station Road to Payne Road, widening	21.135	16
31	J67B	River Road to Stanton Station Road, widening	43.600	16
287	335	HOV Lane Construction (1-78 to the Passaic River: northbound)	32.000	3,IU5
287	335A	HOV Lane Construction (1-78 to the Passaic Riven southbound)	32.000	3,11,15

Other

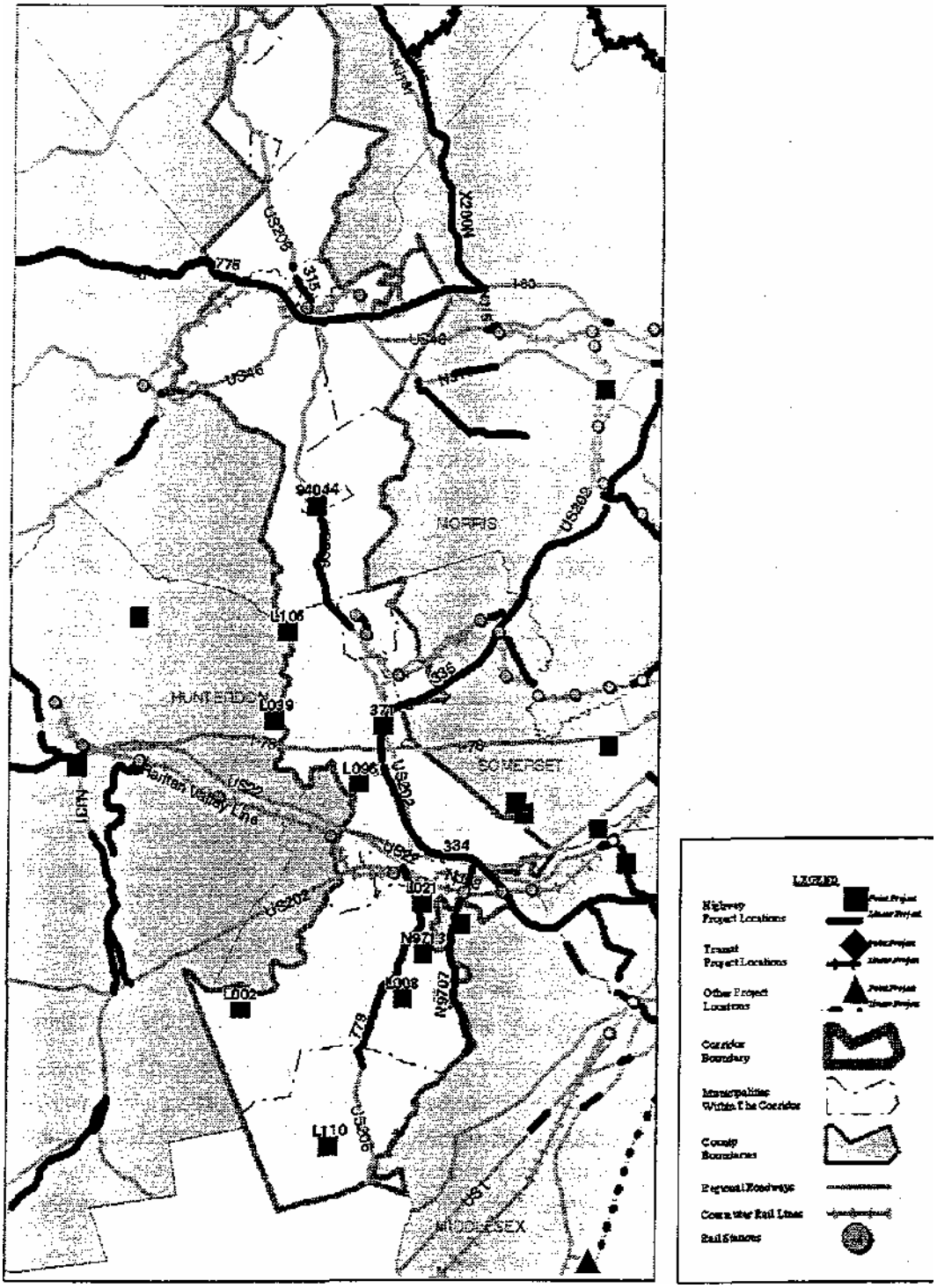
Route	DBNUM	Description	Cost Estimate	Other Corridors
78	X200Q	Roadside rehabilitation Route 1-78 from Delaware River to Route 31: Route 1-80 from Delaware Water Gap to Route 15.	3.000	16

LONG-TERM PROPOSALS (UNCOMMITTED): gives examples of projects and statements of need that have been identified through past planning efforts, and are currently candidates foriuture implementation.

Replacement and rehabilitation work on various bridge, including bridges on Routes *57* and 202

Intersection improvements on Routes 206 and 78

Corridor #11
US206



CORRIDOR 11 - US 206 (SUSSEX, MORRIS, AND SOMERSET COUNTIES)

DescriptiomThis corridor follows Route 206 through Somerset, Morris and Sussex Counties as shown in the Map for Corridor #11. It begins at the Somerset/Mercer County line and extends northward to the intersection with Route 15. Additional connecting roads include Routes 1-80,I-78,1-287 and 202. Rail lines include the Raritan Valley and Boonton Lines, while bus service for local and interstate routes is provided by NJ Transit and private carriers. The corridor covers 295 miles and has a population of 96,845. The average of 328 persons per square mile is the lowest among the corridors. Corridor employment is 160,379, with 543 employees per square mile. The employee ratio is bolstered by office and retail development in Bridgewater in Somerset County.

Mobility Issues: Mobility Issues in this corridor are dramatically influenced by the land use and economic development landscapes of which this corridor is comprised. Travel within the corridor is primarily north-south in orientation and, except for the economic concentration around the US202/US206/I-78/I-287 interchanges, is primarily geared to access two major east-west facilities (I-78/I287 in Somerset County and 1-80 in Morris/Sussex County).

Outside of this central economic region, the corridor passes through environmentally sensitive and rural areas in southern Somerset, Morris and Sussex counties. Thus it joins together a number of small towns and villages and is a rather awkward purveyor of increasing volumes of regional traffic. As the major link in this area, it is also an important pathway for truck traffic.

The combination of limited highway capacity and low residential densities is a primary determinant of travel patterns in the corridor. Thus, at 82 percent, the corridor has the highest rate of SOV use among its residents. The 83 percent of employees traveling in SOVs is also the highest figure among the corridors. While transit use is approximately 2.25 and 0,55 percent for residents and employees respectively, bus use is the lowest in the corridor for both groups, with only 0.72 percent of residents and 0.40 percent of employees commuting by bus.

Residential development on Route 206 in Somerset County is beginning to impact travel through the area. Restoration of passenger service on the West Trenton Line would help increase transit availability and travel interconnections between this corridor and the Route 1 Trenton area. Both 1-78 and 1-287 experience high volumes of truck traffic as does US 202 through this corridor. Operational intersection improvements along Route 206 through Bridgewater, Bedminster, Peapack and Gladstone are needed to serve employment nodes.

NEAR-TERM INVESTMENTS - PROJECTS IN THE FY 1998-2002 TIP BY MAJOR INVESTMENT CATEGORY: Lists projects in the corridor identified for implementation in FY 1998-2002 TIP, plus additional regional transportation investments identified for near term implementation. In addition to describing the project and its cost, this section identifies whether the project is cross-listed in another corridor (due to corridor overlap). Cost estimates refer to funds applied to the project in the near term and do not necessarily represent complete implementation costs.

Highway/Bridge

Maintenance and Preservation

Route	DBNUM	Description	Cost Estimate	Other Corridors
183	315	Musconetcong River to Route 206. rehabilitation and operational improvements	5.000	5
287	765	Rehabilitation of Four Bridges (over US 22)	12.486	14 2.200
206	97105	North of Beneficial Drive to south of Pottersville Road: North of Pottersville Road to south of Chester Township corporate line, resurfacing	4 15	
	L002	Amwell Road Bridge over Neshanic Riven proposed	3.150	
		replacement LOOS Amwell Road Railroad		
		Bridge over Conrail, bridge replacement	3.800	
	L021	East Dukes Parkway: Bridge Replacement		
	L096	Love Road Bridge over Chambers Brook, replacement		14 4
	L105	Black River Road Bridge over Herzog Brook, replacement		15
	Lll 0	Burnt Hill Road Bridge, replacement		
			1.605	
			1.400	
			1.500	
			1.300	

*System **Management***

Route	DBNUM	Description	Cost Estimate	Other Corridors
287	371	Ramp relocation at Routes 202 & 206	2.396	4 15
206	407A	South of Waterloo/Brookwood Road intersection to south of Pierson Drive, operational improvements	8.600	5
206	750	Traffic Signal Improvements (from milepost 45.0 to milepost 722)	8.500	
80	775	Sign upgrades		5 16
287	787	Route 1-95 (New Jersey Turnpike) to Route 22, sign improvements		2 14
206	94042	Intersection improvements, including realigning of Old Chester Road on both eastbound and westbound approaches to intersect Route 206 at a right angle and traffic signaljzaiion.	12.000	
206	94044	Intersection improvements at Main Street (Route 24) and County Route 513	1.000	
N9624		Weston Canal Road to Foothill Road, traffic signal upgrade	N/A	
N9707		County Route 533 (Main Street) from underpass at Lehigh Railroad to Hillsborough Township border, resurfacing	4.700	

*Capacity **Enhancements***

Route	DBNUM	Description	Cost Estimate	Other Corridors
46	213	widening from 30 to 40 ft, 12 *ft* lane, rt46/15 21.7,22.0 on rt!5		14
287	334	Roadway Widening (US 22 to I-7S - Bridgewater Twp.)	N/A	14
287	335	HOV Lane Construction (1-78 to the Passaic River: northbound)	N/A	

Cost Estimate	Other Corridors
N/A	5

40.000 14 32.000 3,4,15

287	335A	HOV Lane Construction (1-78 to the Passaic River: southbound)	32.000	3,4,15
206	579	Brown Avenue to Freiinghuysen Avenue, widening	46.000	14
206 Bypass	779	Belle Mead-Griggstown Road to Old Somerville Road, highway on new alignment	98.000	
206	780	Old Somerville Road to Brown Avenue, widening	52.000	

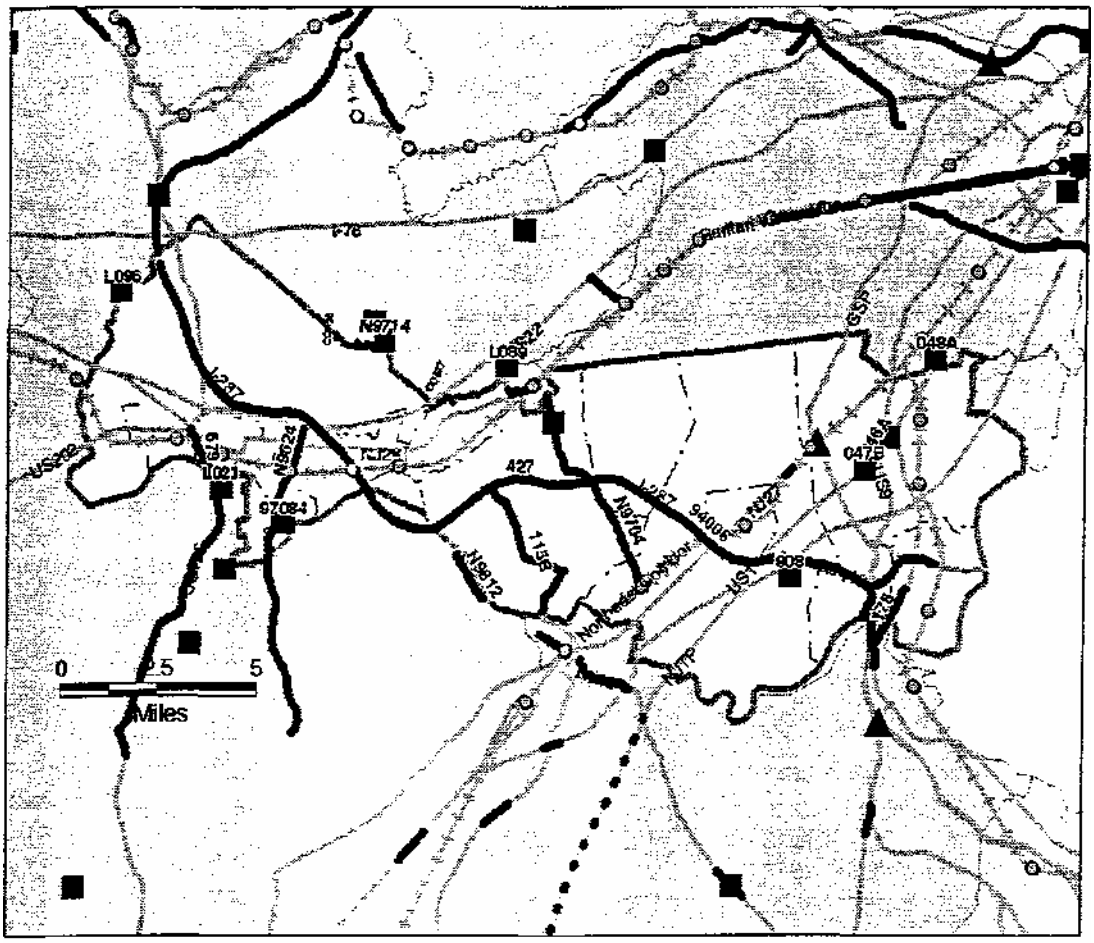
Other

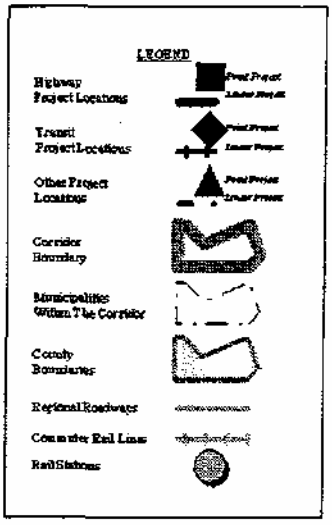
Route	DBNUM	Description	Cost Estimate	Other Corridors
287	94006	North of Route 22 to the New Jersey Turnpike, proposed noise barriers N020 Bike Locker	5.500	2 14
		Purchase (Bridgewater Twp.)	0.200	14

LONG-TERM PROPOSALS (UNCOMMITTED): gives examples of projects and statements of need that have been identified through past planning efforts, and are currently candidates for future implementation.

- Widening and upgrade of Route 206
- Weigh station on Route 206
- Intersection improvements on Route 206
- Implementation of additional bus or rail service

Corridor #14
I-287 / NJ440





CORRIDOR 14 - I-287/NJ 440 SOUTH (MIDDLESEX AND SOMERSET COUNTIES)

Description: This predominantly east-west corridor forms part of the circumferential highway network in Middlesex and Somerset counties as depicted in the Map for Corridor #14. The corridor begins in eastern Middlesex County and extends west and then northward, connecting to Interstate 78 in Somerset County. This corridor covers 136 square miles and it has a population of 391,348, with 2,872 people per square mile. Corridor employment is in excess of 390,000 — which, on average, amounts to 2.3 75 jobs per square mile.

The principal highway in the corridor is Interstate 287 andNJ Route 440. Connecting highways include Interstate 78, the Garden State Parkway, the NJ Turnpike, US Routes 1. 9,22 and 202/ 206, and NJ Routes 18, 27 and 28. Connecting rail service is available in the corridor on the Raritan Valley and Northeast Corridor Lines, while local as well as interstate bus service is provided by NJ Transit and private carriers.

Travel in the corridor is oriented towards Interstate 287/NJ Route 440 and the commercial and office clusters that have developed at interchange points. Bridgewater, Franklin Township, Piscataway and Edison are major travel destinations. The corridor also serves a significant number of retail shopping trips bound for regional malls in the area. Both residents and employees generate SOV trips (77 percent and 81 percent, respectively). Carpooling accounts for an 11 percent share of all work trips by area residents, while almost 13 percent of those employed in the corridor share rides. Transit usage among area residents and workers alike is relatively low and is reflected in the journey-to-work statistics.

Typical Capacity **Issues:** An analysis of the level of service and the Average Daily Traffic for all authority, interstate, US and NJ routes operating in this corridor indicates that much of 1-287 in Middlesex and Somerset counties and 1-78 in Somerset County is at or approaching carrying capacity. Transit service is needed along 1-2 87 linking major employment destinations in Middlesex, Somerset and Morris Counties. Restoration of passenger service on the West Trenton Line would help increase transit availability and travel interconnections between this corridor and the Route 1 Trenton area. Both 1-78 and 1-287 experience high volumes of truck traffic as does US 202 through this corridor.

Mobility Issues: Interchanges on 1-287 provide access to development and connections with other major routes in the transportation system. Traffic backups occur at interchanges where development has occurred and local roads have insufficient capacity for traffic to and from the highway. Centennial Avenue in Piscataway is an example of a local road which provides access to major employment centers from the highway. Interchanges on this section of 1-287 connect with other major routes including 1-78, Route 206, and Route 28, providing vital access to residential and commercial growth corridors and serving as an east-west link for regional travel.

Corridor Infrastructure Investments: There is a need to rehabilitate bridges and improve operational traffic flow on access roads, examples of this would include several bridges over I-287, as well as several 1-287 bridges over Route 22. Ramps and ramp improvements and are

needed at several interchanges in both Middlesex and Somerset Counties along 1-287,1-78, Route 202, and Western Canal Road. Ramp geometry on 1-78 and 1-287 has been identified as a contributor to truck accidents, especially during peak periods.

NEAR-TERM INVESTMENTS - PROJECTS **IN THE FY** 1998-2002 **TIP BY MAJOR INVESTMENT CATEGORY:** Lists projects in the corridor identified for implementation in FY 1998-2002 TIP, plus additional regional transportation investments identified for near term implementation. In addition to describing the project and its cost, this section identifies whether the project is cross-listed in another corridor (due to corridor overlap). Cost estimates refer to funds applied to the project in the near term and do not necessarily represent complete implementation costs.

Highway/Bridge *Maintenance and Preservation*

Route	DBNUM	Description	Cost Estimate	Other Corridors
I	047B	Bridge over Conrail, replacement	36.000	2
9	078	New structure over Raritan River (Modified Design/Build)	74.000	I 2
9	078C	Rehabilitation of the existing Route 9, Edison Bridge	41.100	1 2
35	178	Victory Bridge, structure over the Raritan River, proposed replacement (Modified Design/Build)	122.000	1
287	765	Rehabilitation of Four Bridges (over US 22)		11
	97084	Bridge Street Bridge over Trenton Line, bridge replacement	12.486	
	L074	Washington Avenue Bridge Rehabilitation (over Newmarket Pond - Piscataway Twp.) L096 Love Road Bridge over Chambers Brook, replacement	12.200 2.250	
			1.400	

System ***Management***

Route	DBNUM	Description	Cost Estimate	Other Corridors
I	046A	Green Street to Route 35, widening and bridge replacement	7.500	2
1&9	046B	Route 1&9 and Route 35, interchange replacement	51.000	2
287	427	Roadway Rehabilitation over 1-287 (at Stelton Road, Washington Avenue, and old New Brunswick Road - Piscataway Twp.)	9.462	
287	787	Route 1-95 (New Jersey Turnpike) to Route 22. sign improvements 908 Bridge and associated roadway construction at Woodbridge Avenue and Raritan Center Parkway		2 II
27	93227D	Amtrak structure over Evergreen Street, replacement	1.000	
	GSP9708	New ramp from Metropark Train Station to GSP at MP 131.6	12.000	
	N9624	Weston Canal Road to Foothill Road, traffic signal upgrade		2 2
	N9704	Central Avenue, Edison to Walnut Street Dunellen. traffic signal control		11 2 3
			19.000	

	N9707	County Route 533 (Main Street) from underpass at Lehigh Railroad to Hillsborough Township border, resurfacing	N/A	n

Capacity ***Enhancements***

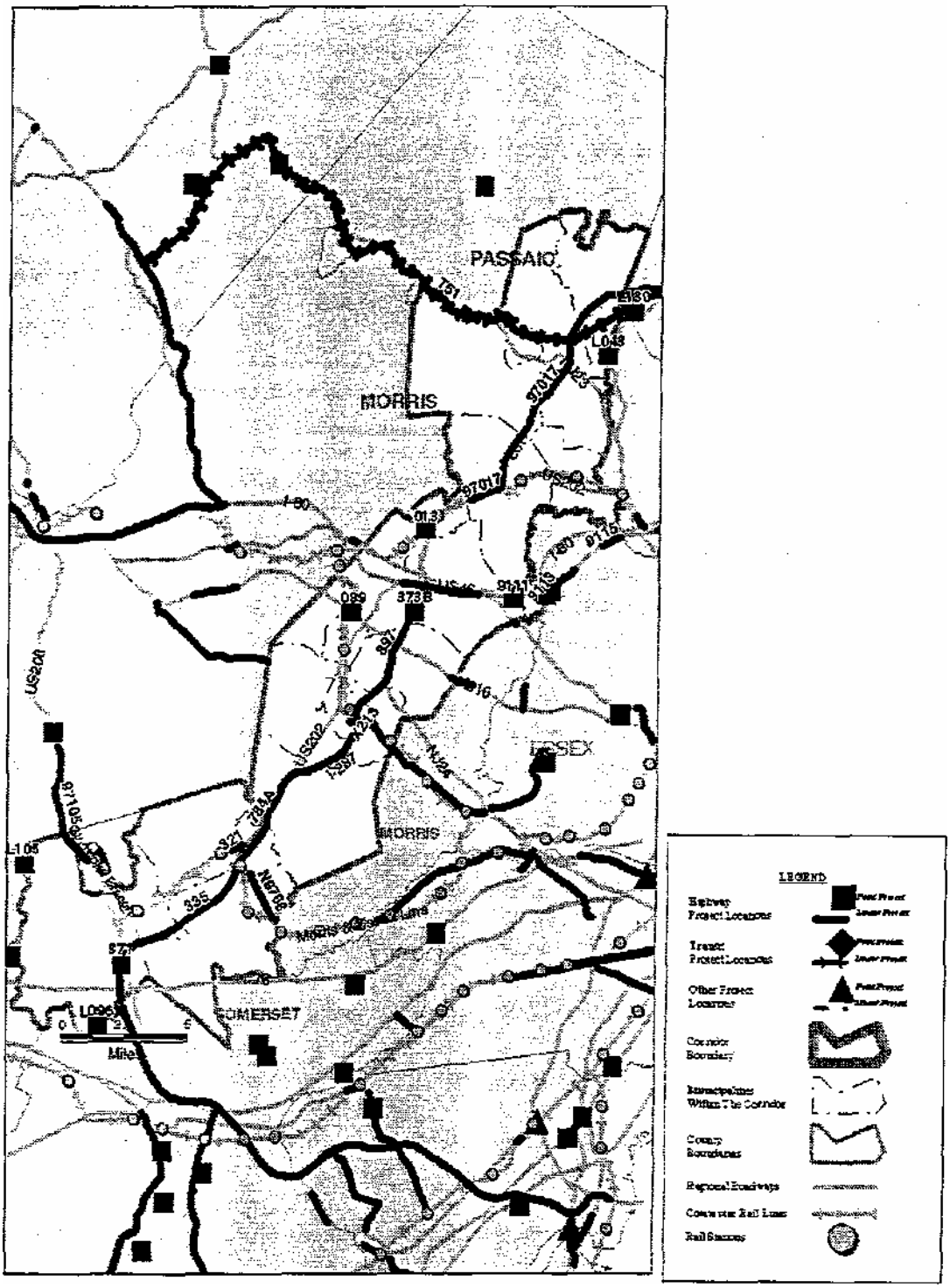
	Route	DBNTJM	**Description**	**Cost Estimate**	**Other Corridors**
18ExL	115 A		River Road to Hoes Lane Extension along Metlars Lane. highway on new alignment 115B Hoes Lane extension to	**68.000**	
ISExL	Route I-2S7 at Possumtown Road, highway on new alignment			5.330	
287 206	334		Roadway Widening (US 22 to 1-78 - Bridgewater Twp.)		**11**
	579		Brown Avenue to Frelinghuysen Avenue, widening		11
Other	GSP061		Driscoil Bridge widening		2
				40.000	
				46.000	
				90.000	

Route	DBNUM	**Description**	**Cost Estimate**	**Other Corridors**
287	**94006**	North **of Route** 22 **to** the New Jersey Turnpike, proposed **noise barriers**	5.500	2 11
	L035	Hoes Lane, wetlands mitigation N020	N/A	
	Bike Locker Purchase (Bridgewater Twp.)		0.200	11
440	X200L	Rehabilitation of the roadside area, including installation of low maintenance landscaping and other improvements.	1.100	1 2

LONG-TERM PROPOSALS (UNCOMMITTED): gives examples of projects and statements of need that have been identified through past planning efforts, and are currently candidates for future implementation.

- Pedestrian access improvements linking Bridgewater Commons Mall to Somerville
- Widening and intersection improvements on Route 1
- Realignment and construction of a new structure on Route 1&9, across the Raritan River
- Intersection improvements on Route 27
- Drainage improvements on Routes 1,1&9
- Replacement and rehabilitation of bridges on Routes 1,9, and 27
- Interchange improvements at Routes 202/206,287, and 78

Corridor #15
I-287



*CORRIDOR 15 - 1-287 NORTH (SOMERSET AND **MORRIS COUNTIES)***

Description: This predominantly north-south corridor forms part of a circumferential ring in Somerset, Morris, Passaic, and Bergen Counties. The 1-287 North Corridor is represented by the Map for Corridor #15. The corridor begins in western Somerset County and extends north, connecting Interstate 78 in Somerset County with Interstate 80 in eastern Morris County. This corridor covers 23 0 square miles, and it has a population of 234,179, with 1,019 people per square mile. The corridor provides employment for 203,292 persons and generates 885 jobs per square mile.

The principal highway in the corridor is Interstate 287. with connecting highways including Interstates 78 and 80, US Routes 46 and 202/206, and NJ Routes 10 and 24. 1-287 has become a major truck and passenger car route for the movement of freight and persons to New York, Connecticut and the New England area. Connecting commuter rail service is provided across the corridor by Morris and Essex Lines, and the Gladstone Branch, while connecting local and interstate bus service is provided by a combination of private carriers and NJ Transit.

Travel in the corridor is characterized by commuter trips to Newark, the Hudson River Water-front and New York City as well as to employment centers in Morristown, Basking Ridge, Florham Park and Parsippany-Troy Hills., The corridor also serves regional shopping malls and recreational areas. Approximately 82 percent of corridor residents and 82 percent of corridor employees drive alone. Fueling this auto dependency is the limited amount of transit available, specifically buses. There are 683 people per bus mile and 593 jobs per bus mile. As a result only 1.7 percent of the corridor residents and about 0.8 percent of the corridor employees ride a bus to work.

Typical Capacity Issues: An analysis of the level of service and the Average Daily Traffic for all authority, interstate, US and NJ routes operating in this corridor indicates that selected segments of 1-287 (in Morris and Somerset counties) and much of 1-78 (in Somerset County), which forms the southern boundary of this corridor, are at or approaching carrying capacity. Both Interstates experience high volumes of truck traffic as does US 202 in this corridor.

Mobility Issues: The segment of 1-287 that is the focus of this corridor provides a link to regional east-west routes and access to major activity centers. Trips originating in Morris and Somerset County for points east and west connect with 1-80 and 1-78 using 1-287. Morristown and Parsippany-Troy Hills are major activity centers along 1-287, generating and attracting trips. 1-287 connects with Route 10 and Route 46, providing access to the commercial and retail development along these routes.

Corridor Infrastructure Investments: This entire stretch of 1-287 has been targeted for the addition of a third lane in each direction which will be dedicated to high occupancy vehicles (HOVs). HOV support facilities are needed such as Park and Rides and connecting transit service along 1-287. This area also requires key operational improvements to better manage traffic flow along highways serving this major interstate roadway. The need for bridge repair and/or replacement is prevalent on both local and state highway access roads such as Route

202. High **level** platforms and station building upgrades are needed to make designated key rail stations accessible.

NEAR-TERM INVESTMENTS - PROJECTS IN THE FY 1998-2002 TIP BY MAJOR INVESTMENT CATEGORY: Lists projects in the corridor identified for implementation in FY 1998-2002 TIP, plus additional regional transportation investments identified for near term implementation. In addition to describing the project and its cost, this section identifies whether the project is cross-listed in another corridor (due to corridor overlap). Cost estimates refer to funds applied to the project in the near term and do not necessarily represent complete implementation costs.

Highway/Bridge *Maintenance and*

Preservation

Route	DBNUM	Description	Cost Estimate	Other Corridors
	013	Bridge over NJ TRANSIT Boonton Line, replacement	3.800	5
202	321	Vicinity of Church Street to North of Finley Avenue and Childs Road, rehabilitation	1.000	3
287	373C	Replacement of the Parsippany Road Bridge and reconstruction of the interchange. This is currently a partial interchange.	N/A	5 6
46	423	Bridge Replacement (over Passaic River - Montvilie)	2.660	7
206	97105	North of Beneficial Drive to south of Pottersville Road; North of Pottersvilie Road to south of Chester Township corporate line, resurfacing	2.200	4 11
	L043	Main Avenue Bridge over the Weasel Brook, rehabilitation	N/A	7 ,13,17
	L105	Black River Road Bridge over Herzog Brook, replacement	1.500	4 11
124	X213	East of South Street to west of Passaic River, rehabilitation	4.600	3
80	X222	West Parsippany Road overpass to east of South Beverwvck Road overpass, rehabilitation	7.900	5 6

System Management

Route	DBNUM	Description	Cost Estimate	Other Corridors
10	087	Intersection improvement at Ridgedale Avenue, operational improvements	18.000	6
287	371	Ramp relocation at Routes 202 & 206	2.396	4 11
287	373B	Route 1-287 and Route 1-80 Flyovers	60.000	5 6
287	897	Interchange modification at Route 1 0	18.500	6
46	9111	Intersection improvements at New Road	9.700	5 6
46	9112B	Operational improvements at the interchange. Route 46 westbound will be widened from one travel lane to two travel lanes, and the Route 159 merge with Route 46 westbound will be realigned to merge from the right side of	N/A	7
46	9113	Intersection improvements at Plymouth and Clinton Roads	18.800	7
	N9708	County Route 657 (South Maple Avenue) from the Morris	N/A	3
6.R		County line to North Maple Avenue at Oak Street, resurfacing		

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Capacity ***Enhancements***

Route	DBiVUM	Description	Cost Estimate	Other Corridors
10	089	provision of a diamond interchange with 3 new ramps at a partial grade separated interchange	N/A	
287	335	HOV Lane Construction (1-78 to the Passaic Riven northbound)	32.000	3,4,11
287	335A	HOV Lane Construction (1-78 to the Passaic River: southbound)	32.000	3,4,11
287	373	Roadway Widening and HOV Lane (from Route 24 Freeway to 1-80 - Hanover Twp.)	14.980	5 6
287	373A	HOV Lane Construction (from South St. to north of Route 24 Freeway - Morristown Town)	6.420	6
287		Interchange Construction (at Ringwood Avenue - Wanaque)		
287	603		9.032	
	784A	HOV Lane Construction and Related Improvements (SB from the Passaic River to Route 24 - Harding Twp.)	10.360	

Other

Route	DBNUM	Description	Cost Estimate	Other Corridors
287	97013	Vicinity of Bailey's Mill Road to vicinity of Harding Corporate Line, noise barriers	0.600	
287	97017	Montville to New York state line, noisewall construction	2.965	7,8,17

Transit

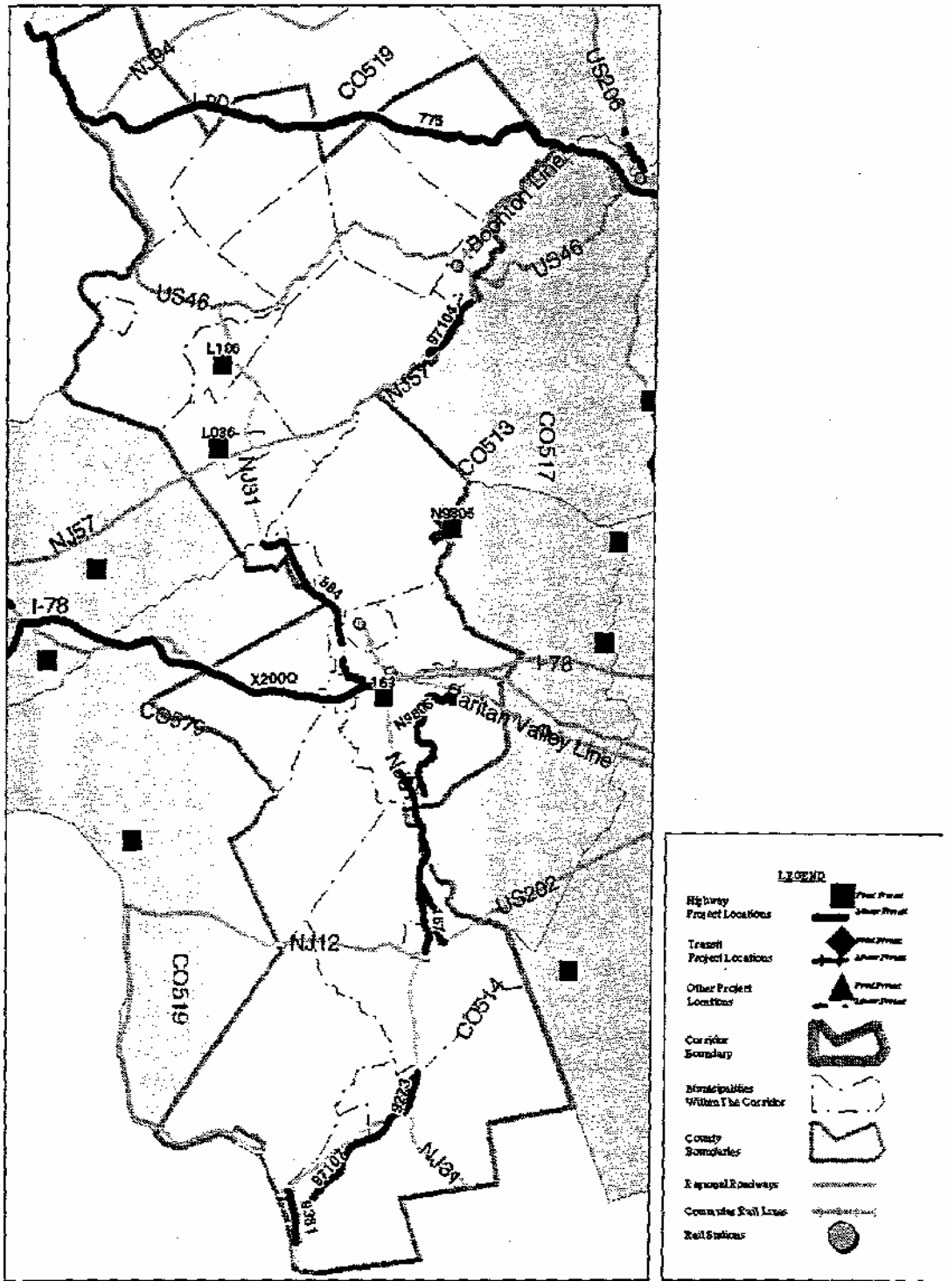
Capacity ***Enhancements***

Route	DBNUM	Description	Cost Estimate	Other Corridors
TRANSIT	T5I	NYS&W Restoration	10.000	5,17

LONG-TERM PROPOSALS (UNCOMMITTED): gives examples of projects and statements of need that have been identified through past planning efforts, and are currently candidates for nature implementation.

- Replacement of bridges on Route 202
- Intersection improvements on Routes 10 and 206
- Ramp improvements on Route 80,202
- Drainage improvements on Route 202
- Operational improvements on Routes 46 and 202

Corridor #16
NJ31



CORRIDOR 16 - NJ 31 (WARREN AND HUNTERDON COUNTIES)

Description: This predominantly north-south transportation corridor, depicted in the Map for Corridor #16, extends from northwest Warren to the Delaware River and the Mercer County border just south of Lambertville. This corridor covers 429 square miles and it has a population of 118,621 — with 276 people per square mile. Absolute employment numbers and density measures for jobs and housing units rank among the lowest throughout the NJTPA region.

Principal highways in the corridor include portions of US Routes 202. Connecting highways include east/west Interstates 78 and 80 as well as US 46. NJ 57, NJ 12 and NJ 94. NJ Transit's Raritan Valley, Boonton and Morris and Essex Lines terminate in the corridor providing rail access. Bus service is not prevalent in the corridor. The corridor has the least amount of available transit among the 18 corridors. Only 1 percent of the corridor residents and 0.6 percent of the corridor employees use transit None of those employed in the corridor and a mere 0.3 percent of those living in the corridor use rail transit. The SOV percentage for residents and workers alike are among the highest among the 18 study areas (i.e., 81 percent and 79 percent, respectively).

Much of the travel in this corridor is of an east-west interstate nature — with through traffic using 1-78 and 1-80 to access job markets in Newark. New York City and Pennsylvania. Though there are relatively few major employment centers in the corridor, the rural nature of the area is attracting residents to the corridor to live. Thus the corridor is seeing more commuter traffic and additional locally-generated weekend traffic beyond that generated by the recreation attractions of the area.

Typical Capacity Issues: An analysis of the level of service and the Average Daily Traffic for all authority, interstate, US and NJ routes operating in this corridor indicates that selected segments of 1-78 (in Hunterdon County), Route 57 (in the western portion of Warren County), and US 202 (in northern Hunterdon County) are at or approaching carrying capacity. All three routes are impacted by truck traffic which is also in evidence on US 202,206 and NJ 31.

Corridor Infrastructure Investments: This corridor is characterized by the need to widen Route 31 to two lanes in each direction between Clinton and Flemington, along with the construction of a partial bypass of Flemington. Operational and capacity improvements are also needed at the interchange of 1-78 and Route 31, and the Route 31/202/12 Flemington Circle. Bridge rehabilitation and replacement is called for as well, both on Route 31 and along various access roadways in the corridor.

NEAR-TERM INVESTMENTS - PROJECTS IN THE FY 1998-2002 TIP BY MAJOR INVESTMENT CATEGORY: Lists projects in the corridor identified for implementation in FY 1998-2002 TIP, plus additional regional transportation investments identified for near term implementation. In addition to describing the project and its cost, this section identifies whether the project is cross-listed in another corridor (due to corridor overlap). Cost estimates refer to funds applied to the project in the near term and do not necessarily represent complete implementation costs.

Highway/Bridge *Maintenance and*

Preservation

Route	DBNUM	Description	Cost Estimate	Other Corridors
31		I67C Bridges over the south branch of the Raritan River and Conrail Railroad, replacement	N/A	4
31		884 Roadway Resurfacing (north of County Route 513 to south of Musconetcong River - various municipalities)	4.815	
31	9102	Bridge over Raritan Valley Line Railroad, replacement	8.600	
29	9381	Delaware Avenue, drainage line	4.000	
57	97104	Walters Road to vicinity of Mountain Avenue, resurfacing	1.000	
179	97107	North of Old York Road to Route 31/202, resurfacing	3.000	
	L036	Kinnaraan Avenue Bridge over Pohatcong Creek, replacement	1.600	
	LI06	Washington Avenue Bridge over Furnace Brook, replacement	1.012	

System Management

Route	DBNUM	Description	Cost Estimate	Other Corridors
31	167	Flemington Circle to Bartles Comer Road operational improvements	20.000	
80	775	Sign upgrades	12.000	5 11
202	9273	Route 31 to Wertsville Road, operational improvements	4.750	

Capacity Enhancements

Route	DBNUM	Description	Cost Estimate	Other Corridors
31	163	Stanton Station Road to Payne Road, widening	21.135	
31	164	Widening (south of Harrison Street to vicinity of Halstead	4 14.000	
31		Street);	4	
31	167B	River Road to Stanton Station Road widening 403A Route 202 to Route 31. highway on new alignment (Design/Build)	43.600 2.000	4

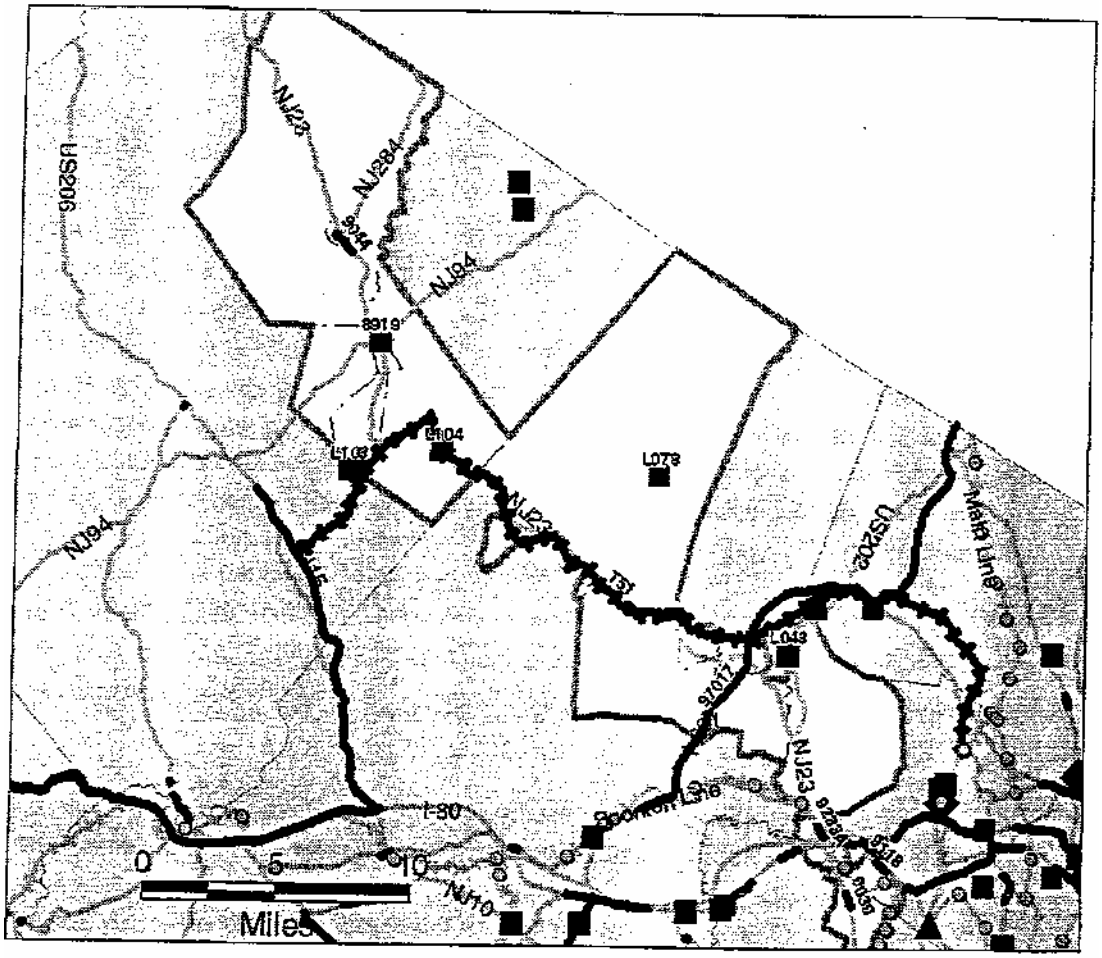
Other

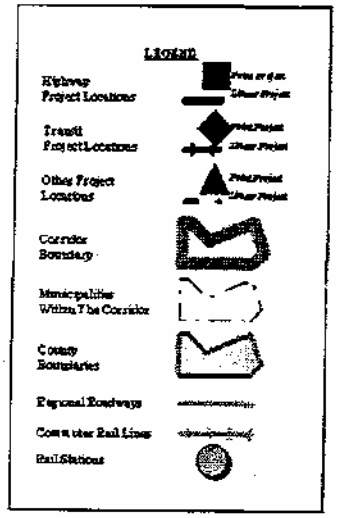
Route	DBNUM	Description	Cost Estimate	Other Corridors
78	X200Q	Route 1-78 from Delaware River to Route 31: Route 1-80 from Delaware Water Gap to Route 15, roadside rehabilitation	3.000	4

LONG-TERM PROPOSALS ^COMMITTED): gives examples of projects and statements of need that have been identified through past planning efforts, and are currently candidates for future implementation.

- Drainage improvements on Routes 29 and 57
- Rehabilitation and operational improvements on Route 57
- Bridge rehabilitation and replacement on Routes 57 and 94
- Resurfacing, drainage, and safety improvements on Roue 12
- Intersection improvements and elimination of Flemington Circle at Routes 202/31

Corridor #17
NJ23





CORRIDOR 17-NJ23 (PASSAIC, MORRIS AND SUSSEX COUNTIES)

Description: This predominantly north-south transportation corridor begins in the northwestern corner of the state and extends to the southeast—terminating in the vicinity of Interstate 80 and the NJ Transit Boonton Line. As depicted in the Map for Corridor # 17, the principal highway in the corridor isNJ Route 23. Connecting highways in the corridor include Interstates 80 and 287, and NJ Route 94. Connecting rail service is provided at the southern end of the corridor on the NJ Transit Boonton Line. Bus service is not prevalent in the corridor.

This corridor covers 250 square miles, and it has a population of 151,384—with 606 people per square mile. Census-based employment stands at 97,403 or 390 jobs per square mile. In this corridor, 78 percent of all residents and 79 percent of all workers drive alone to their job sites. These statistics are a reflection of the low densities of population, housing units and employment in the study area. To make up for the lack of transit offered in the corridor, many people carpool to work — 10 percent of the corridor residents and 12 percent of the corridor employees.

Travel is oriented towards the Interstate 80 corridor with its access to New York City, regional centers in Paterson, Hackensack, and Newark, and regional shopping and employment in places like Wayne and Parsippany. The corridor also serves to access recreation areas to the northwest at the Delaware River, Pennsylvania and southern New York State. Communities within the corridor are also beginning to attract more residential growth as people seek a more suburban community in which to live.

Typical Capacity Issues: An analysis of the level of service and the Average Daily Traffic for all authority, interstate, US and NJ routes operating in this corridor indicates that most of Route 23 (in Passaic County and in southern Sussex County is at or approaching carrying capacity. Exacerbating this situation is the increasing truck traffic along these very same roads.

Corridor Infrastructure Investments: Investment priorities for this corridor, which contains Route 23, is: the need to widen Route 23 from 4 to 6 lanes in Riverdale; and the implementation of system management strategies to improve traffic flow at key intersections along Route 23 (i.e., Windbeam Road and at the interchange with Route 94). There is also a need to address operational problems along Route 94, which intersects both key highways in this corridor.

NEAR-TERM INVESTMENTS - PROJECTS IN THE FY 1998-2002 TIP BY MAJOR INVESTMENT CATEGORY: Lists projects in the corridor identified for implementation in FY 1998-2002 TIP, plus additional regional transportation investments identified for near term implementation. In addition to describing the project and its cost, this section identifies whether the project is cross-listed in another corridor (due to corridor overlap). Cost estimates refer to funds applied to the project in the near term and do not necessarily represent complete implementation costs.

Highway/Bridge

Maintenance and Preservation

Route	DBNUM	Description	Cost Estimate	Other Corridors
139	053	Replacement of existing structures.	N/A	7 N/A
	L043	Main Avenue Bridge over the Weasel Brook, rehabilitation	7,13,15 2.180	
	L068	Sparta Munson Comer Road from Beardslee Hill Drive to 1600 feet north, realignment	N/A	
	L078	West Brook Road Bridge over the West Brook, rehabilitation	2.320	
	L103	Kennedy Avenue Bridge over Wallkill River, replacement LI	2.040	
	04	Silver Grove Road Bridge over New York, Susquehanna. and Western Railroad, replacement		

System Management

Route	DBNUM	Description	Cost Estimate	Other Corridors
			11.500	7
46	212	Interchange improvements at Riverview Drive	15.084	5 7
	447	Traffic Signal Improvements (along US 46 and NJ 23 Corridor - various municipalities)	5.600	
23	8919	Intersection improvements at Route 23 and Route 94	N/A	
23	9039	Intersection improvements at Fairview Avenue, Commerce Road, and Vincent Road	5.500	
23	9044	South of Lower Unionville Road to South of Spring Street operational improvements	18.600	7
46	9118	Interchange improvements at Browerton Road	6.550	7
23	9233	Operational and Safety Improvements (West Belt Roadway - Wayne Twp.)	10.000	7
23	9233A	Route 1-80 West to Route 23 North		

Other

Route	DBNUM	Description	Cost Estimate	Other Corridors
287	97017	Montville to New York state line, noisewall construction	2.965	7,8,15

Transit

Capacity Enhancements

Route	DBiVUM	Description	Cost Estimate	Other Corridors
TRANSIT	T51	NYS&W Restoration	10.000	5,15

LONG-TERM PROPOSALS (UNCOMMITTED): gives examples of projects and statements of need that have been identified through past planning efforts, and are currently candidates for future implementation.

- Safety and interchange improvements on Route 46
- Correction of safety and operational problems on Route 94
- Drainage and rehabilitation, and intersection improvements, on Route 23

Municipalities with Master Plan on File with the Office of State Planning"

Bergen County

Mahwah*1989
Oakland

Hunterdon County

Alexandria* 1986
Bethlehem* 1988
Bloomsbury
Califon*1999
Clinton Town* 1986
Clinton Twp.* 1993
Glen Gardner
Hampton
High Bridge* 1979
Holland* 1993
Lebanon Boro* 1993
Lebanon Twp.* 1993
Milford*1975
Tewksbury* 1998
Union

Morris County

BoontonTown*1979
Boonton Twp
Butler
Chester Boro* 1994
Chester Twp,* 1988
Denville*1993
Dover
Hanover
Harding* 1984
Jefferson* no date
Kinnelon
Mendham Boro* 1994
Mendham Twp.* 1993
Mine Hill* 1977
Montville*1992
Morris Twp.* 1994
Morris Plains* 1989
Morristown
Mount Arlington* no date
Mount Olive* 1986
Mountain Lakes
Netcong*1988
Parsippany-Troy Hills* 1987
Pequannock*1986
Randolph Twp.* 1998
Riverdale
Rockaway Boro* 1991
Rockaway Twp.
Roxbury*1990
Victory Gardens
Washington Twp.* 1995 Wharton

Passaic County

Bloomingdale*1990
Pompton Lakes
Ringwood* 1991
Wanaque*1992 West Milford* 1987

Somerset County

Bernards* 1989
Bernardsville*1978
Far Hills* 1989 Pea pack-Gladstone* 1988

Sussex County

AndoverBoro* 1991
Andover Twp Byram* no date Franklin* 1994
Green* 1988 Hamburg
Hardyston*1992
Hopatcong Lafayette
Ogdensburg*1991
Sparta* 1994
Stanhope* 1991
Vernon

Warren County

Allamuchy* 1982
Alpha
Belvidere* 1989
Franklin* 1991
Frelinghuysen
Greenwich Twp.* 1992
Hackettstown
Harmony* 1992
Hope*1990
Independence
Liberty
Lopatcong*1989
Mansfield Oxford* no date Phillipsburg
Pohatcong* 1993
Washington Boro* 1992
Washington Twp.*
White* 1993

NOTE: Date of Master Plan on file indicated

Highlands: Federal Studies

Status	Topic / Source	Year	Author	Title
Flood Control				**Reconnaissance Study Upper Rockaway River, NJ Flood Control & Environmental** Restoration **Study,** Section 905 (b) **(WRDA 86) Preliminary Analysis**
In Progress	US Army Corps of Engineers, New York District	1998		
Highlands				**Impacts of Growth and Development on** Economic **Stability in the New York-New Jersey Highlands**
Existing	U.S.D.A. Forest Service			
Highlands				**Creating A Forestry Agenda for the NY - NJ Highlands - Summary of the Challenges and Opportunities and the Potential**
Existing	USDA Forest Service	1999	Regional Plan Association	
Highlands				**Highlands Research Symposium II: Applying Ecological Knowledge to Land Use Decision Making**
Existing	USDA Forest Service	1996		
Highlands				**New York - New Jersey Highlands Regional Study**
Existing	USDA Forest Service	1991	The Highlands Study Team	
Highlands				**Suburban Development, Economic Studies and Green Space in the** New York/New **Jersey Highlands Region: A Review and Recommendation for Further Study**
Existing	USDA	1998	Jonathan Wagar and Marcus Phelps	
Highlands				**New York-New Jersey Highlands Regional Study**
Existing	USDA	1991	The Highlands Study Team	
Highlands				**USDA Forest Service Update of the Highlands Regional Study**
Existing	USDA-Northeastern Area State and Private Forestry	1999		

Topic	Status	Source	Year	Author	Title
Water Quality	Existing	US Fish and Wildlife Service	1991		**Tech. Asst. Rpt: Pilot Study on the Feasibility of Protecting the Beaver Brook Area in the** Twps. of **Rockaway, Denville and Boonton the Borough of Kinnelon, Morris County, New Jersey**
Water Quality	Existing	USGS	1996		**Associations Between Water-Quality** Trends **in** New **Jersey Streams and Drainage-Basin** Characteristics, 1975-86
Water Quality	Existing	USGS	1995		**Estimated Loads of Selected Constituents From Permitted and Nonpermitted Sources At Selected Surface-water-Quality Stations in the Musconetcong, Rockaway, and Hippany River Basins, NJ 1985-90**
Water Quality	Existing	USGS	1997		**Water-Quality Data for 90 community Water Supply** Wells **J** NJ, **1994-95**
Water Quality	Existing	USGS & Army Armament Research Development and Engineering Center	1997		**Analysis of Groundwater Flowpaths Near Water Supply Wells, Picatinny Arsenal, NJ**
Water Supply	Existing	US EPA	1976		**US EPA Region 2: Sole** Source **Aquifer**
Water Supply	Existing	USGS	1996	Nicholson, R.S.	**Hydrogeology of and Ground-water** flow, a **valley-fill and carbonate-rock aquifer system in Long** Valley in **the New Jersey Highlands**
Water Supply	Existing	USGS	1986		**Hydrologic Conditions in the Upper Rockaway River Basin, New Jersjey 1984-1986**
Water Supply	Existing	USGS	1998		**Simulation of Ground-Water-Flow Patterns and Areas Contributing Recharge** to Streams and Water-**Supply Wells in a Valley-Fill and Carbonate-Rock Aquifer System,** Southwestern **Morris County NJ**

Topic	Title		
Status	Source	Year	Author
Wellhead Protection	**Alamatong Wellhead Protection Study (Chester, Randolph, Roxbury)**		
Existing	USGS	1998	

Highlands: State Studies

Status	Topic	jSource	Year	Author	Title
Existing	GIS	NJDEP-NJGS	1995		Geographic Information System (GIS) Database Development for the Central Passaic River Basin Hydrogeolgic Investigation
Existing	Growth Management Plan	State Planning Commission	1992	State Planning Commission	New Jersey State Development and Redevelopment Plan
In progress	Growth Management Plan	State Planning Commission	1999	State Planning Commission	New Jersey State Development and Redevelopment Plan: Interim Plan
Existing	Highlands	Center for Remote Sensing and Spatial Analysis, Dept. of Natural Resources, Cook College-Rutgers University	1995	Richard G. Lathrop Jr., PhD	The Status of Forest Fragmentation in the NY-NJ Highlands
Existing	Highlands	NJDEP Natural and Historic Resources Group	1990		Skylands Greenway: River to River A Plan for Action
Existing	Natural Resource Inventory & GIS	Rutgers University		Richard G. Lathrop and John A. Bognar	Sterling Forest: A Lanscape Ecological Analysis
Existing	Open Space	NJ DEP	1998		Governor's Council on New Jersey Outdoors—Final Report-Summary of Findings
Existing	Open Space	NJDEP, Green Acres Program	1999		Meeting the Challenge: Preserving One Million More Acres of New Jersey's Open Space

Topic	Title		
Status	Source	Year	Author
Park Management Plan	Sterling State Park-Interim Plan Management Guide		
Existing	New York State Office of Parks, Recreation, Historic Preservation	1998	
Transportation	New Jersey First: A Transportation Vision for the 21st Century		
Existing	NJ DOT	1998	NJ Transit
Transportation	New York, Susquehanna, and Western (NYS&W) Commuter Rail Study-Preliminary Engineering Study		
In Progress	NJTransit		
Transportation	Northwest New Jersey - Northeast Pennsylvania Passenger Rail Study-Lackawanna Cutoff-MIS/GIS-**Interim Report** #1		
In Progress	NJTransit		
Wastewater Management Planning	Draft Upper Raritan Water Quality Management Plan		
Existing	NJDEP	1979	Division of Water Resources
Water Quality	Pompton/Passaic River Algal Bloom Study, May-October 1995		
Existing	NJDEP, Division of Watershed Management	1996	
Water Quality	**Ambient Biomonitoring Network on the Arthur Kill, Passaic, Hackensack, and Wallkill River Drainage** Basins		
Existing	NJDEP, DWM Bureau of Monitoring Management	1993	
Water Quality	Influence of Wanaque South Diversion on the Trophic Level of Wanaque Reservoir and Its Water Quality Management Program		
Existing	NJDWSC	1988	Najarian & Associates
Water Supply	Depletive Water Use Project for Regional Water Resource Planning Areas of New Jersey		
Existing	NJDEP Environmental Regulation	1994	

Topic	Title		
Status	**Source**	**Year**	**Author**
Water Supply	**Water For the 21st Century. The Vital Resource, New Jersey Statewide Water** Supply Plan		
Existing	NJDEP, DWM, Northwest Bureau	1996	
Water Supply	**A Method for** Evaluating **Ground-Water-Recharge Areas in New Jersey**		
Existing	NJDEP-NJGS	1993	
Water Supply	**Hydrogeologic Framework of the Middle and Lower Rockaway River Basin, Morris County, New Jersey**		
Existing	NJDEP-NJGS	1993	
Watershed Management	**Whippany River Watershed Characterization Report: A Living Document**		
Existing	NJDEP DWM Northeast Bureau	1995	
Watershed Management	**Steady State High Flow Water Quality Data,** Sept. 5-7,**1995 Whippany River Watershed Project**		
Existing	NJDEP, DWM Northeast Bureau	1996	
Watershed Management	**Whippany River Watershed Project, Storm Event Water Quality and Streamflow Data 1998**		
Existing	NJDEP, DWM Northeast Bureau		Killam and Associates
Watershed Management	**Water Quality Trends Assessment for the Whippany River**		
Existing	NJDEP, DWM, Northeast Region		1996
Watershed Planning	**Final Report of the Great Swamp Watershed Advisory Committee, Vol. 1 & Vol. 2**		
Existing	NJ DEP GSWA Committee		1993
Watershed Planning	**Pompton, Pequannock, Wanaque, Ramapo Watershed Area** (WMA #3)		
Future	NJDEP		
Watershed Planning	**Farny Highlands Watershed, A Plan** to Protect Water **Supplies and to Preserve Forests**		
Existing	NJDEP-Division of Parks & Forests	1992	Farny Highlands Watershed Coalition

Highlands: Regional Studies

	Topic	Title	
jStatus	Source	Year JAuthor	
GIS Existing	Palisades Interstate Park Commission	Palisades Interstate Park Commission Open 1999	Space Inventory of the Highlands

Growth **Management Plan** **Regional Development Guide 19SO-2000**

Existing Tri-State Regional Planning Commission

Open Space **The New Jersey Highlands Report: An Inventory and GIS Mapping of Open** Space **and Undeveloped Lands**

Existing Palisades Interstate Park Commission 1999 Passaic River Coalition

Transportation **Regional Transportation Plan for Northern New Jersey Update**

Existing North Jersey Transportation Planning Authority Inc. 1998

Water Quality **Geological Survey** (U.S.) **Water quality on days of diversion and days of no diversion, Pompton and** Passaic **Rivers, New Jersey**

Existing North Jersey District Water Supply Commission 1997 Hickman, R. Edward

Highlands: County Studies

Topic	Title		
Status	[Source	Year	Author
Socio-Economic	**Bergen** 2000 A **Partnership in Planning Phase II Report**		
Existing	Bergen	1989	
Land Use Element	**Bergen County Comprehensive Plan Existing Land use Final Report #11**		
Existing	Bergen	1970	
Wastewater Management Planning	**Bergen County Master Plan Sewer** Facilities		
Existing	Bergen	1971	
Storm water Management	**Bergen County Master Plan Storm Water Facilities**		
Existing	Bergen	1973	
Transportation	**Bergen County Master Plan Transportation Element of the County Master Plan**		
Existing	Bergen	1978	
Water Supply	**Bergen County** Master **Plan Water Facilities**		
Existing	Bergen	1971	
Public Survey	**Comprehensive Plan Report Citizen Participation Report #19**		
Existing	Bergen	1971	
Fiscal Analysis	**Comprehensive Plan Report** Fiscal **Analysis Report #16**		
Existing	Bergen	1971	
Housing Element	**Comprehensive Plan Report Housing Element Phase II Report #14**		
Existing	Bergen	1971	

Topic	Title
Status **Source**	**1 Year 1 Author**
Open Space & Recreation	**Comprehensive Plan Report Open Space & Recreation Inventory *#26***
Existing Bergen	**1975**
Open Space	**Comprehensive Plan Report Recreation & Open Space Plan Report #15 1971**
Existing Bergen	
Land Use Element	**Future Land Use Projections & Sketch Plan Report #18**
Existing Bergen	**1971**
Housing Element	**Housing Element Phase II, Report #21**
Existing Bergen	**1973**
Wastewater Management Planning	**Infiltration/Inflow Analysis & Sewer Evaluation Report (BCUA)**
Existing Bergen	**1981 Bergen County Utilities Authority**
Transportation	**Linking Existing Transit Services to Employees of 100 or More Employees**
Existing Bergen	**1994**
Transportation	**Northwest Bergen Transportation/Land Use Study**
Existing Bergen	**1991**
Transportation	**Southeast Bergen Transportation/Land use Study**
Existing Bergen	**1992**
Transportation	
Existing **Bergen**	
Transportation	**Southwest Bergen Transportation/Land Use Study**
Existing Bergen	**1992**

iStatus	Topic / Source	Year	Author	Title
Existing	Transportation / Bergen	1998		**The Bergen County Transit Map**
Existing	Transportation / Bergen	1997		The Community Commuter - Transit for Suburban America
Existing	**Transportation** / Bergen	1997		The Impact of Bergen County's Vacant Office Space on the Transportation Network
Existing	Transportation / Bergen	1994		Transit Enhancement Strategies and Implementation Techniques "A Plan of Action for Transit in Bergen County New Jersey"
Existing	Transportation / Bergen	1993		**Transit: A Pot of Gold at the End of the Community Option Rainbow**
Existing	**Growth Management** / Hunterdon	1997	Growth Management Advisory Committee	A State **of the County Assessment Planning Issues, Trends & Visions**
Future	Transportation / Hunterdon			**Bridge Inventory (Hunterdon)**
In Progress	**Design** / Hunterdon			Design Handbook - "Preserving Community Character" - drafting
Existing	**CIS** / Hunterdon		Castle Velly Consultants	Geographic Information Systems Parcel Mapping
Existing	Water Supply / Hunterdon	1966		**Geology and Ground Water Resources of Hunterdon** County, NJ

Topic	Status	Source	Year	Author	Title
Existing	Hunterdon		1999	Hunterdon CADB	Growth Management Plan Background Studies
Growth Management	Existing	Hunterdon	1986		Hunterdon County Growth Management Plan
Master Plan	Existing	Hunterdon	1 986		Hunterdon County Master Plan Update
Historic Preservation	Existing	Hunterdon	1979		Hunterdon County Master Plan: Sites of Historic Interest
Bicycle & Pedestrian	Existing	Hunterdon	1997		Hunterdon County Road Bicycle Assessment
Transportation	Existing	Hunterdon	1 998		Hunterdon County Short Line Rail Study
Transportation	Existing	Hunterdon	1993		Hunterdon County Transportation Plan
Farmland Preservation	In Progress	Hunterdon		Hunterdon CADB	Hunterdon Farmland Preservation Plan
Transportation	In Progress	Hunterdon	1999		Land Use & Travel Demand Projections for Major Highway Corridors in Hunterdon County: Phase 1 Data Gathering - Draft
Recreation	Existing	Hunterdon	1972		Parks Plan Update

Topic	Title
Status Source	Year Author
Public Survey	**Public Opinion Survey-Summary of Results**
Existing Hunterdon	**1994 Hunterdon County Planning Board**
Socio-Economic	**Quality of Life Concerns and Planning Issues in Hunterdon County**
Existing Hunterdon	**1994 Hunterdon County Planning Board**
Historic Preservation	**Stone Arch Bridge Study**
Existing Hunterdon	**1999**
Growth Management	**Strategies for Managing Growth in Hunterdon County**
Existing Hunterdon	**Growth Management Task Forces**
Transportation	**The Interstate 78 and Route 31 Corridor Infrastructure Needs Assessment**
Existing Hunterdon	**1998**
Natural Resource Inventory	**A Natural Resource Management Guide for the County of Morris**
In Progress Morris	
Wellhead Protection	**Alamatong Wellhead Protection Study (Chester, Randolph, Roxbury**
Existing Morris	**1998**
Storm water Management	**Beaver Brook Watershed Stormwater Management Plan**
Future Morris	
Bicycle & Pedestrian	**Bike and Pedestrian Users Guide**
In Progress Morris	
Watershed Planning	**Farny Highlands Watershed, A Plan to Protect Water** Supplies **and** to **Preserve Forests**
Existing Morris	1992 Farny Highlands Watershed Coalition

Status	Topic (Source	Year	Author	Title
Watershed Planning				**Final Report of the Great Swamp Watershed Advisory Committee,** Vol. **1** & Vol. 2
Existing	Morris	1993		
Transportation				Inter mod a I Freight Network and Land Use Report
In Progress	Morris			
Storm water Management				**Jackson Brook Watershed Stormwater Management Plan**
In Progress	Morris			
Stormwater Management				McKeel Brook Watershed Stormwater Management Plan, Final Report
Existing	Morris	1997		
Bicycle & Pedestrian				Morris County Bicycle and Pedestrian Element
Existing	Morris	1998		
Farmland Preservation				**Morris County Comprehensive Farmland Preservation Plan**
In Progress	Morris		Morris CADB	
Open Space				**Morris County Master Plan, Open** Space **Element**
Existing	Morris	1988		
Circulation Element				Morris County Master Plan-Circulation Element
Existing	Morris	1992		
Land Use Element				Morris County Master Plan-Future Land Use Element
Existing	Morris	1975		
Historic Preservation				Morris **County Master Plan-Historic Preservation Element**
Existing	Morris	1976		

iStatus	Topic iSource	Year	Title jAuthor
Wastewater Management Planning			Morris County Master Plan-Wastewater Management Element
Existing	Morris	1985	
Water Supply			Morris County Master Plan-Water Supply Element
Existing	Morris	1994	
Open Space			Morris County Open Space Inventory
Existing	Morris	1988	
Transportation			Morris County Rail Station Access Improvement Study
In Progress	Morris		
Stormwater Management			Morris County Stormwater Management Plan, Upper Rockaway River Watershed Study, Final Report
Existing	Morris	1991	
Stormwater Management			Morris County Stormwater Management Technical Guide
Existing	Morris	1989	
Bicycle & Pedestrian			NYS&W Bicycle and Pedestrian Path
In Progress	Morris		
Wellhead Protection			**Planning for Wellhead Protection for Ground Water from the Whippany, Chatham & Miliburn Valleys of the Buried Valley Aquifer Systems**
Existing	Morris	1998	
Socio-Economic			Quality of Life Index - Morris 2000
In Progress	Morris		Morris 2000
Flood Control			**Reconnaissance** Study **Upper** Rockaway **River,** NJ Flood Control & **Environmental Restoration Study,** Section 905 (b) (WRDA 86) Preliminary Analysis
In Progress	Morris	1998	

Topic	Title		
Status	!Source	I Year	JAuthor
Wastewater **Management Planning**			**Sanitary Sewerage Facilities for Northwest Morris County**
Existing	Morris	1978	
Open Space			**Saving Space: The Great Swamp Watershed Greenway and Open Space Plan**
Existing	Morris	1997	
Water Quality			Tech. Asst. Rpt.: Pilot Study on the Feasibility of Protecting the Beaver Brook Area in the Twps. of Rockaway, Denville and Boonton the Borough of Kinnelon, Morris County, New Jersey
Existing	Morris	1991	
Natural Resource Inventory			**New Jersey Urban Forestry Demonstration Project: Passaic County Natural Resources Management** Database Development Program
Existing	Passaic		
Recreation			**Passaic County Comprehensive Recreation** Master **Plan**
Existing	Passaic	1969	
Circulation Element			Passaic County Master Plan Circulation & Transportation Report #6
Existing	Passaic	1966	
Fiscal Analysis			Passaic County Master Plan Economic Base Report *#2*
Existing	Passaic	1965	
Fiscal Analysis			Passaic County Master Plan Financial Report - Report #3
Existing	Passaic	1965	
Miscellaneous			**Passaic County Master Plan Historical and Regional Eval. Report #5**
Existing	Passaic	1966	
Housing Element			Passaic County Master Plan Housing Element
Existing	Passaic	1988	

[Status	Topic Source	Year	Author	Title
Land Use Element				**Passaic County Master Plan Land Use Element**
Existing	Passaic	1988		
Miscellaneous				**Passaic County Master Plan Program Report #4 Facilities & Services**
Existing	Passaic	1966		
Miscellaneous				**Passaic County Master Plan Selected Federal & State Program Report #10**
Existing	Passaic	1966		
Miscellaneous				**Passaic County Master Plan-The Planning Function Related to Government Structure Report #9**
Existing	Passaic	1966		
Open Space				**Passaic County Open Space and Natural Resources Management Plan**
Existing	Passaic	1994		
Park Management Plan				**Passaic County Parks Recovery Action Plan**
Existing	Passaic	1981		
Park Management Plan				**Passaic County Proposed Park Expansion Plan** (Not **Adopted)**
Existing	Passaic	1963		
Solid Waste Management Plan				**Passaic County Solid Waste Management Plan (with updated Amendments)**
Existing	Passaic			
Transportation				**Transportation Profile Report**
Existing	Passaic	1996		
Open Space				**2nd Watchung Mauntain Open Space/Trail System Concept Map**
Existing	Somerset	1987		

Topic			Title
Status	Source	j Year	Author
Transportation Existing	Somerset	1992	A Travel Demand Management Plan for Central Somerset County
Brownfields In Progress	Somerset		Center Based Brownfields Sites-Technical Study Grant
Land Use Existing	Somerset	1 999	Composite County Zoning Map
Wastewater Management Plan Existing	Somerset	1 996	Current Municipal Wastewater Management Plans
Reexamination Report Existing	Somerset	1998	Darft Somerset County Cross Acceptance Report
Re-examination Existing	Somerset	1998	Draft Somerset County Master Plan Re-examination Repori
Economic Development Existing	Somerset	1995	Economic Assessment for Somerset County
Land Use Existing 1 994	Somerset		Existing Multi-Family Housing Map
Land Use Existing	Somerset	1992	Existing Retail Locations Map
Miscellaneous			First-Time Submissions Map 1983-199"

Topic	Title
Status Source	Year Author
Historic Preservation Existing Somerset	Historic Resources Proposed Six Mile Run State Park Report 1992
Miscellaneous Existing Somerset	Listing of Final Plats by Municipality (Map) 1983-1997
Miscellaneous Existing Somerset	Major Commercial Development Map 1995
Land Use Existing Somerset	Major Commericial, Office & Industrial Activity Map 1993
Historic Preservation Existing Somerset	Master Plan Element: Cultural and Historic Resource Survey 1992
Open Space Existing Somerset	Municipal Open Space Inventories 1991
Open Space Existing Somerset	Municipal Open Space Inventories 1991
Natural Resource Inventory Existing Somerset	Natural Resources Inventory of Somerset County, New Jersey 1 982 Somerset County Planning Board
Historic Preservation Existing Somerset	NJ TRANSIT Historic Railroad Bridge Survej 1991
Housing Existing Somerset	Senior Housing Options Map 1996

Topic	Title
jStatus Source	Year (**Author**
Wastewater Management Plan	Sewer Collection System in Somerset County Map
Existing Somerset	1992
Wastewater Management Plan	**Sewer Collection System in Somerset County Map**
Existing Somerset	1992
Solid Waste Management Plan	**Solid** Waste **Management Plan, Volume I & II**
Existing Somerset	1997
Transportation	Somerset County Access Improvement Study
Existing Somerset	1995
Farmland Preservation	Somerset County Agricultural Development Master Plan
In Progress Somerset	Somerset CADB
Open Space	Somerset County Agriculture Development Board Easement Purchase Application Map
Existing Somerset	1991
Miscellaneous	Somerset County Air Quality Report
Existing Somerset	1981
Transportation	Somerset County Capital Improvement Program Handbook-Roads, Interserections & Bridges
Existing Somerset	1995
Historic Preservation	**Somerset County Cultural Resource Survey, Pkase I & Phase II**
Existing Somerset	1989
Historic Preservation	Somerset County Historic Metal Truss Bridge Survey
Existing Somerset	1992

Topic •Status	Source	Year	Author	Title
Transportation				**Somerset County Master Plan Circulation Update**
Existing	Somerset	1994		
Housing				**Somerset County Municipal Fair Share Housing Update**
Existing	Somerset	1995		
Housing				**Somerset County Municipalities: Low & Moderate Income Housing Map**
Existing	Somerset	1996		
Transportation				Somerset **County Municpal Circulation Element Review Report**
Existing	Somerset	1996		
Natural Resource Inventory				Somerset **County Natural Resources Inventory (10 maps plus text)**
Existing	Somerset	1983		
Transportation				**Somerset County Park & Ride Study**
Existing	Somerset	1994		
Recreation				**Somerset County Parks, Recreation and Open Space Master Plan**
Existing	Somerset			
Open Space				**Somerset County Parks, Recreation and Open Space Master Plan**
Existing	Somerset			
Scenic Corridors				**Somerset County Scenic Corridors and Roadways** Study
Existing	Somerset			
Transportation				Somerset **County Scenic Roadway & Corridor Study & Map**
Existing	Somerset	1992		

jStatus	Topic / Source	Year	Author	Title
	Wastewater Management Planning			**Somerset County Sewerage System Report**
Existing	Somerset	1972		
	Transportation			**Somerset County Transit Access Improvement Study**
Existing	Somerset	1995		
	Transportation			**Somerset County Transportation** Access **Improvement Study**
Existing	Somerset	1995		
	Transportation			**Somerset County Transportation Development District Study**
Existing	Somerset	1991		
	Transportation			**Somerset County Transportation Management Plan**
Existing	Somerset	1988		
	Economic Development			**Somerset Profile "Successes & Opportunities"**
Existing	Somerset	1994		
	Housing			Special Needs **Housing Map**
Existing	Somerset	1996		
	Transportation			**Subregional Transportation Planning Program - Draft Transportation Plan**
Existing	Somerset	1978		
	Master Plan			**Summary of Master Plan Elements and Land Use**
Existing	Somerset	1987		
	Transportation			**Summary of Public Transit Management Analysis Study**
Existing	Somerset	1989		

Status	Topic / Source	Year	Author	Title
Park Management Plan				**Washington Valley Park, Park Master Plan**
Existing	Somerset	1996		
Park Management Plan				**Washington Valley Park, Park Master Plan**
Existing	Somerset	1996		
Wastewater Management Plan				**Wastewater Facilities** Service **Area Map**
Existing	Somerset	1999		
Miscellaneous				**Water Distirbution Systems in Somerset County Map**
Existing	Somerset	1992		
Water Supply				**Water Distribution in Somerset County Map**
Existing	Somerset	1992		
Water Supply				**Water Supply & Distribution Report**
Existing	Somerset	1973		
Wastewater Management Planning				**208 Water Quality Management Plan**
Existing	Sussex	1979		
Wellhead Protection				**Development of A Wellhead Protection Program Demonstration Project for the Township of Sparta, Sussex** Co., **NJ**
Existing	Sussex	1995		
Economic Development				**Economic Development Strategic Plan: Executive Summary**
Existing	Sussex	1994		
Growth Management				**Environmentally Based Growth Management - A Carrying Capacity Approach for Sussex County**
Existing	Sussex	1982	Sussex County Planning Board	

Topic	Status	Source	Year	Author	Title
Historic Preservation	Existing	Sussex	1977		**Master Plan Study: Historic Preservation & Scenic Sites**
Transportation	Existing	Sussex	1998	Sussex **County Department of Human** Services	**Community Transportation Plan** Sussex **County: Part of the** Statewide, **County and Community Transportation Planning** Project
Land Use Element	In Progress	Sussex	1997		**Sussex County Land Use Plan - Draft**
	Existing	Sussex	1977		**Sussex County Master Plan**
Housing Element	Existing	Sussex	1977	Sussex	**County Master Plan: Housing Element Spirit of 76 Report** #14
Growth Management	In Progress	Sussex			**Sussex County Regional Strategic Growth Management Plan**
Solid Waste Management Plan	Existing	Sussex			**Sussex County Solid Waste Management Plan**
Transportation	Existing	Sussex	1996	Sussex	**County Transportation Management Study - Five Year Plan**
Transportation	In Progress	Sussex			**Sussex County Transportation Master Plan - Draft**
Miscellaneous	Existing	Sussex	1989	American Affordable Housing Institute, Rutgers and Wharton School, University of Pennsylvania	**Sussex County: Potential Impacts of the** NJ State **Plan**

Topic	Title		
IStatus	jSource	Year	Author
Wastewater Management Planning			**Sussex County wide** Wastewater **Management Plan - Draft**
In Progress	Sussex		
Water Quality			**A Computer Simulation of the Glacial/Carbonate Aquifer in the Pequest** Valley, **Warren County, New Jersey**
Existing	Warren		
Miscellaneous			**Air Quality Discussion Report (on mobile emissions) (Warren)**
Existing	Warren	1992	
Transportation			**County Transportation Plan**
Future	Warren		
Land Use			**Current Plannign Capacity/Nitrate Dilution Model: Township of White, Warren County, New Jersey**
	Warren		Connolly Environmental, Inc.
Existing			
			Drainage Study Report (Warren)
Stormwater Management		1975	
Existing	Warren		
			Morris Canal **Historic Preservation Survey**
Historic Preservation		1983	
Existing	Warren		
Watershed Planning			Paulinskill **Watershed Study (Warren)**
Existing	Warren	1972	
Public **Survey**			**Public Opinion Survey Report**
Existing	Warren	1998	
Solid Waste **Management Plan**			**Solid Waste Management Plan of 1994 (Warren)**
Existing	Warren	1994	

Topic	Title		
Status	ISource	Year	Author
Solid Waste Management Plan	Solid Waste Management Plan Update		
In Progress	Warren		
Growth Management	Southern Area Regional Plan		
Future	Warren		
Public Survey	Survey of Planning Issues & Needs Survey Examination Report		
Existing	Warren	1996	
Transportation	US Route 22 Corridor Study (includes NJ Routes 57,122, and CR 519 in Southern Warren County)		
Existing	Warren	1998	
Economic Development	**Visioning Plan to be tied in with Economic Development**		
Future	Warren		
Farmland Preservation	Warren County Agriculture Development Board, Long Range Plan		
Existing	Warren	1999	Warren CADB
Natural Resource Inventory	**Warren County Environmental Resource Inventory**		
Existing	Warren	1999	
Master Plan	Warren County General Development Plan		
Existing	Warren	1979	
Historic Preservation	Warren County Historic Resources Survey 1990-1992		
Existing	Warren	1992	
Open Space	**Warren County Open Space Plan**		
Existing	Warren	1999	

Topic / Status	iSource	Year	Author	Title
Open Space				**Warren County Open** Space **Task Force Report**
Existing	Warren	1999		
Transportation				**Warren County Transportation Master Plan**
Existing	Warren	1982		
Water Supply				**Warren County Water Quality/Water Quantity Study (survey)**
Existing	Warren	1997	WC Soil Conservation District and USDA Natural Resources Conservation Service	
Natural Resource Inventory				**Washington Boro, Warren County Soil Type and Development Suitability Map**
Existing	Warren		Ren, Jim	

Highlands: Municipal Studies

Topic / Status	Source	Year	Author	Title
				Buildout Analysis — The Musconetcong Watershed Association
Existing	Bethlehem	1996	Musconetcong Watershed Association	
Circulation Element				**Route 17 Corridor Study Master Plan Amendment**
Existing	Mahwah	1995	Mahwah Planning Board	
Fiscal Analysis				**Buildout Analysis — The Musconetcong Watershed Association**
Existing	Byram	1997	Musconetcong Watershed Association	
Fiscal Analysis				**Buildout Analysis -- The Musconetcong Watershed Association**
Existing	Mansfield	1997	Musconetcong Watershed Association	
Fiscal Analysis				**Buildout Analysis - The Musconetcong Watershed Association**
Existing	Washington Twp.	1996	Musconetcong Watershed Association	
CIS				**Geographic Information Systems Parcel Mapping**
Existing	Bethlehem Twp.		Castle Velly Consultants	
CIS				**Geographic Information System Files: Clinton Twp. Hunterdon County, New Jersey**
Existing	Clinton Twp.		Mapping Technologies International	
Greenway				**Pequest River Greenway: Allamuchy Township, Warren County**
Existing	Allamuchy Township		PK Environmental	
Historic Preservation				**Historic Preservation Plan**
Existing	Mahwah	1998	Mahwah Planning Board	

Topic		Title	
Status	Source	Year	Author
Housing Element		1994 Housing Element	
Existing	Oakland	1 994	Oakland Planning Board
Land Use		Current Plannign Capacity/Nitrate Dilution Model: Township of White, Warren County, New Jersey	
Existing	Township of White	Connolly Environmental, Inc.	
Master Plan		Alexandria Township Master Plan	
Existing	Alexandria	1986	
Master Plan		Allamuchy Township Master Plan	
Existing	Allamuchy	1982	
Master Plan		Andover Borough Master Plan	
Existing	Andover	1981	
Master Plan		Belvidere Town Master Plan	
Existing	Belvidere	1989	
Master Plan		Bernards Township Master Plan 1989	
Existing	Berndards		
Master Plan Existing		Berndardsville Borough Master Plan	
Berndardsville		1978	
Master Plan		Bethlehem Township Master Plan	
Existing	Bethlehem	1992	
Master Plan			Bloomingdale Borough Master Plan
		1990	

Topic	Title		
Status	iSource	j Year	Author
Master Plan Existing	Boon ton Township Master Plan Boonton	1979	
Master Plan Existing	By ram Township Master Plan (no date) Byrara		
Master Plan Existing	Califon - Land Development Ordinance Califon		1995
Master Plan Existing	Califon Borough Master Plan Califon	1986	
Master Plan Existing	Chester Borough Master Plan Chester		1994
Master Plan Existing	Chester Township Master Plan Chester	1988	
Master Plan Existing	Clinton Town Master Plan Clinton	1986	
Master Plan Existing	Clinton Township Master Plan Clinton	1993	
Master Plan Existing	Denville Township Master Plan Denville	1993	
Master Plan Existing	Existing	1989	Far Hills Borough Master Plan

Status	Topic Source	Year [Author	Title
Master Plan			**Franklin Borough Master Plan**
Existing	Franklin	1994	
Master Plan			**Franklin Township Master Plan**
Existing	Franklin	1991	
Master Plan			**Green Township Master Plan**
Existing	Green	1988	
Master Plan			**Greenwich Township Master Plan**
Existing	Greenwich	1992	
Master Plan			**Harding Township Master Plan**
Existing	Harding	1984	
Master Plan			**Hardyston Township Master Plan**
Existing	Hardyston	1992	
Master Plan			**Harmony Township Master Plan**
Existing	Harmony	1992	
Master Plan			**High Bridge Borough Master Plan**
Existing	High Bridge	1979	
Master Plan			**Holland Township Master Plan**
Existing	Holland	1987	
Master Plan			**Hope Township Master Plan**
Exisitng	Hope	1990	

Topic			Title
Status	Source	\ Year	Author
Master Plan Existing	Hope	1989	Lopatcong Township Master Plan
Master Plan Existing	Jefferson		Jefferson Township Master Plan (no date)
Master Plan Existing	Lebanon	1993	Lebanon Borough Master Plan
Master Plan Existing	Lebanon	1993	Lebanon Township Master Plan
Master Plan Existing	Mahwah	1989	Housing Element Mahwah Planning Board
Master Plan Existing	Mahwah	1989	Land Use Element Mahwah Planning Board
Master Plan Existing	Mahwah	1989	Mahwah Township Master Plan
Master Plan Existing	Mahwah	1989	Master Plan Mahwah Planning Board
Master Plan Existing	Mendham	1994	Mendham Borough Master Plan
Master Plan Existing	Mendham	1994	Mendham Township Master Plan

Status	Topic / Source	Year	Author	Title
Master Plan				**Milford Borough**
Existing	Milford	1975		
Master Plan				**Mine Hill Township Master Plan**
Existing	Mine Hill	1977		
Master Plan				**Montville Township Master Plan**
Existing	Montville	1992		
Master Plan				**Morris Township Master Plan**
Existing	Morris	1994		
Master Plan				**Morris Plains Borough Master Plan**
Existing	Morris Plains	1989		
Master Plan				**Mount Arlington Borough Master Plan (no date)**
Existing	Mount Arlington			
Master Plan				**Mount Olive Township Master Plan**
Existing	Mount Olive	1986		
Master Plan				**Netcong Borough Master Plan**
Existing	Netcong	1988		
Master Plan				**1994 Master Plan Map**
Existing	Oakland	1994	Oakland Planning Board	
Master Plan				**Comprehensive Master Plan & Map**
Existing	Oakland	1990	Oakland Planning Board	

Topic / Status	Source	Year	Author	Title
Master Plan				**Ogdensburg Borough**
Existing	Ogdensburg	1991		
Master Plan				**Oxford Township Master Plan (no date)**
Existing	Oxford			
Master Plan				**Parsippany-Troy Hills Towns Master Plan**
Existing	Parsippany-Troy Hills	1987		
Master Plan				**Peapack and Gladstone Borough**
Existing	Peapack and Gladstone	1988		
Master Plan				**Pequannock Township Master Plan**
Existing	Pequannock	1990		
Master Plan				**Pohatcong Township Master Plan**
Existing	Pohatcong	1993		
Master Plan				**Pohatcong Township Master Plan**
Existing	Pohatcong	**1993**		
Master Plan				**Randolph Township Master Plan**
Existing	Randolph	1993		
Master Plan				**Randolph Township Master Plan Amendments**
Existing	Randolph	1998		
Master Plan				**Ringwood Borough Master Plan**
Existing	Ringwood	1991		

iStatus	Topic Source	Year	iAuthor	Title
Master Plan Existing	Rockaway	1991		Rockaway Borough Master Plan
Master Plan Existing	Roxbury	1990		Roxbury Township Master Plan
Master Plan Existing	Sparta	1994		Sparta Township
Master Plan Existing	Stanhope	1991		Stanhope Borough Master Plan
Master Plan Existing	Tewksbury	1994		**Tewksbury Township Master Plan and Related Documents**
Master Plan Existing	Wanaque	1992		Wanaque Borough Master Plan
Master Plan Existing	Washington	1982		Washington Borough Master Plan
Master Plan Existing	Washington	1995		Washington Township Master Plan
Master Plan Existing	West Milford	1987		**West Milford Township Master Plan**
Master Plan Existing	White	1993		**White Township Master Plan**

Topic	Title		
Status	Source	Year	Author
Miscellaneous		New **York-New Jersey Highlands Demonstration Planning Project—West Milford**	
Existing	West Milford Township	1996	
Natural **Resource Inventory**		**A Survey of Rare Species and their Habitats in Allamuchy Township, Warren County, New Jersey 1994-1995**	
Existing	Allamuchy Township	1995	Biostar Associates, Inc. Environmental Consultants
Natural Resource Inventory		**Critical Geologic Features: Allamuchy Township, Warren County New Jersey**	
Existing	Allamuchy Township		PK. Environmental: GeoEnvironmental Research
Natural Resource Inventory		**Phase I Natural Resource Inventory, Borough of Bernardsville, Sherman-Hoffman Audubon Sanctuary**	
Existing	Bernardsville		Professional Planning and Engineering Corporation
Natural Resource Inventory		**Phase I Natural Resource Inventory: Borough of Bernardsville, Peters Tract**	
Existing	Bernardsville		Professional Planning and Engineering Corporation
Natural Resource Inventory		**Index of Borough Owned Lands Natural Resource Inventory**	
Existing	Oakland	1974	Oakland Planning Board
Natural Resource Inventory		**Environmental Analysis and Policy Report of the North Branch of the Raritan River: Borough of Peapack and Gladstone, Somerset County, New Jersey**	
Existing	Peapack and Gladstone		Chadwick, John. T.
Natural Resource Inventory		**Washington Boro, Warren County Soil Type and Development Suitability Map**	
Existing	Washington Boro & Washington Township		Ren, Jun
Natural Resources Inventory		**A Natural Resource Inventory: Professional Engineering and Environmental Mapping Services Hercules, Incorporated**	
Existing	Roxbury		IT Corporation

! Status	Topic / Source	Year	Author	Title
Open Space				**Alexandria Township Open Space Plan**
Existing	Alexandria		Watrous, Robert K.: Watrous-de Versterr, Lori L.: Alexandria Twp. Environmental Commission	
Open Space				**Protected Open Space Inventory**
Existing	Alexandria		Pass, Howard G.	
Open Space				**Clinton Township Open Space Biological Inventory**
Existing	Clinton Twp.		Grossmueller Enterprises Consolidated	
Open Space				**Sparta Township: Open Space Plan**
Existing	Sparta Township		Sparta Environmental Commission & Planning Department	
Open Space				**Protected Open Space Inventory: Township of Washington, Warren County, New Jersey**
Existing	Washington Township		Maser Sosinski & Associates, P.A.	
Open Space				**White Township Environmental Commission Open Space Plan**
	White		White Township Environmental Commission	
Reexamination				**1994 Re-examination Report**
Existing	Oakland	1994	Oakland Planning Board	
Reexamination Report				**Reexamination Report**
Existing	Mahwah	1995	Mahwah Planning Board	
Storm water Management				**Crooked Brook Drainage Basin Stormwater Management Plan**
Existing	Montville	1994		
Wastewater Management Planning				**Oakland Wastewater Management Plan**
Existing	Oakland	1990	Oakland Planning Board	

Status	Topic / Source		Year	Title / Author
Water Quality				**Allamuchy** Township **Well Test Program**
Existing	Allamuchy Township			PK Environmental Planning & Engineering: GeoEnvironmental Research, A NJ Nonprofit Corporation
Water Quality				**A Nonpoint** Source Pollution **Inventory of Two Sub watersheds** Within **the Borough of Hopatcong**
Existing	Hopatcong			Coastal Environmental Services, Inc.
Water Quality				**Water Quality Summary Report Mountain Lake: Liberty Township, Warren County, New Jersey**
Existing				Amy S. Greene Environmental Consultants, Inc.
Water Quality				**Surface Water Protection Study for Mendham Township, New Jersey**
Existing		Mendham		Upper Raritan Watershed Association
Water Quality				**Water Quality Study: Rockaway Creek-La mi ngton River, Tewksbury Township**
Existing		Tewksbury		Ace, Mary M.; Browns, James S.
Water Quality				**Baseline Surface Water Monitoring**
Existing		Vernon		Vernon Township Environmental Commission
Water Supply				**Groundwater Recharge Map:** Clinton **Township**
Existing	Clinton Twp.			GeoEnvironmental Research, A New Jersey Nonprofit Corporation
Water Supply				**Critical Water Resources Study Phase II: Land Use 1996**
Existing		Mendham	1996	Mendham Township Environmental Commission
Water Supply				**Draft 1994 Oakland Water Master Plan**
In Progress		Oakland	1994	Oakland Planning Board
Water Supply				**Oakland Water Supply System Master Plan**
Existing	Oakland		1988	Oakland Planning Board

Topic		Title	
Status	jSource	Year	iAuthor
Water Supply			**Simulation of Ground-Water-Flow Patterns and Areas** Contributing **Recharge to Streams and Water-Supply Wells in a Valley-Fill and Carbonate-Rock Aquifer** System, **Southwestern Morris County NJ**
Existing	Randolph	1998	
Water Supply			**Route** 206 **Corridor Build-Out Study: Roxbury Township, Morris County, New Jersey**
Existing	Roxbury		John Maddan & Assoc., Planners and Landscape Architects
Water Supply			**Baseline Water Level Monitoring: Vernon Township, New Jersey**
Existing	Vernon		GeoEnvironmental Research, A New Jersey Nonprofit Corporation
Water Supply			**Water Resource Identification Study**
Existing	White		Zorn, Jennifer
Wellhead Protection			**Interim Wellhead Protection Area Report**
Existing	Oakland	1992	Oakland Planning Board
Wellhead Protection			**Development of A Wellhead Protection Program Demonstration Project for the Township of Sparta, Sussex Co., NJ**
Existing	Sparta	1995	
Wellhead Protection			**Interim Well head Protection** Area **Report-Washington Boro & Twp.**
Existing	Washington Borough and Washington Township		Maser Sosinski & Associates, P.A.

Highlands: Non-Governmental Organization Studies

Topic	Title		
Status	Source	Year	Author
Bicycle & Pedestrian	**Somerset County Bike Suitability Map**		
Existing	Ride Wise	1997	Ride Wise
Highlands	**The New Jersey Highlands: Treasures at Risk: Archaeology, Historic Sites and Districts, The American Revolution, The Iron Industry, Morris Canal and Historic Railroads**		
Existing	New Jersey Conservation Foundation	1992	Alison E. Mitchell
Highlands	**The New Jersey Highlands: Treasures at Risk: Carbonate Rocks-Limestone, Dolomites and Marbles**		
Existing	New Jersey Conservation Foundation		
Highlands	**Report of the New York/New Jersey Highlands Work Group**		
Existing	Regional Plan Association		
Master Plan	**The Pequannock Watershed Conservation and Development Plan**		
Existing	Pequannock Watershed	1975	Newark Watershed Conservation and Development Cooperation
Master Plan	**Building A Metropolitan Greensward-New York-New Jersey-Connecticut Metropolitan Region**		
Existing	Regional Plan Association		
Miscellaneous	**New York-New Jersey Highlands Demonstration Planning Project—West Milford**		
Existing	Regional Plan Association	1996	
Miscellaneous	**Defining Coastal and Forest Regions: Expert Criteria vs. Political Decisions in New Jersey**		
Existing	USA International Congress, Arc-ete Senans, France	1989	Kinsey, David N.
Natural Resource Inventory	**The Wyanokie Highlands**		
Existing	CLEAN		Citizens for Land, Environment and Neighborhood

Topic	Title		
Status	Source	Year	Author
Natural Resource Inventory	Natural and Historic Resource Inventory of the Pyramid Mountain Natural and Historic Area		
Existing	Pyramid Mountain Committee	1976	Meyer, Lucy
Natural Resource Inventory	A Regional Natural Resource Inventory		
Existing	South Branch Watershed Association	1976	
Natural Resource Inventory	A Regional Natural Resource Inventory Commissioned by the Environmental Commissions of Alexandria, Clinton, Bethlehem, Branchburg, Labanon and Washington Townships		
Existing	South Branch Watershed Association	1976	Reilly, Sean
Open Space	The Rockaway River and its Treasured Resources. Visions & Strategies for their Recovery		
Existing	Friends of the Rockaway River, Inc.	1998	
Open Space	Saving Space: The Great Swamp Watershed Greenway and Open Space Plan		
Existing	Great Swamp Watershed Association	1997	
Socio-Economic	Quality of Life Index - Morris 2000		
In Progress	Morris 2000		Morris 2000
Water Quality	Health Assessment for Pohatcong Valley Groundwater Contamination		
Existing	Environmental Health Services-Agency for Toxic Substances and Disease Registry	1991	
Water Quality	Surface Water Protection Study for Mend ham Township, New Jersey		
Existing	Upper Raritan Watershed Association		Upper Raritan Watershed Association
Wellhead Protection	Planning for Wellhead Protection for Ground Water from the Whippany, Chatham & Millburn Valleys of the Buried Valley Aquifer Systems		
Existing	Passaic River Coalition	1998	